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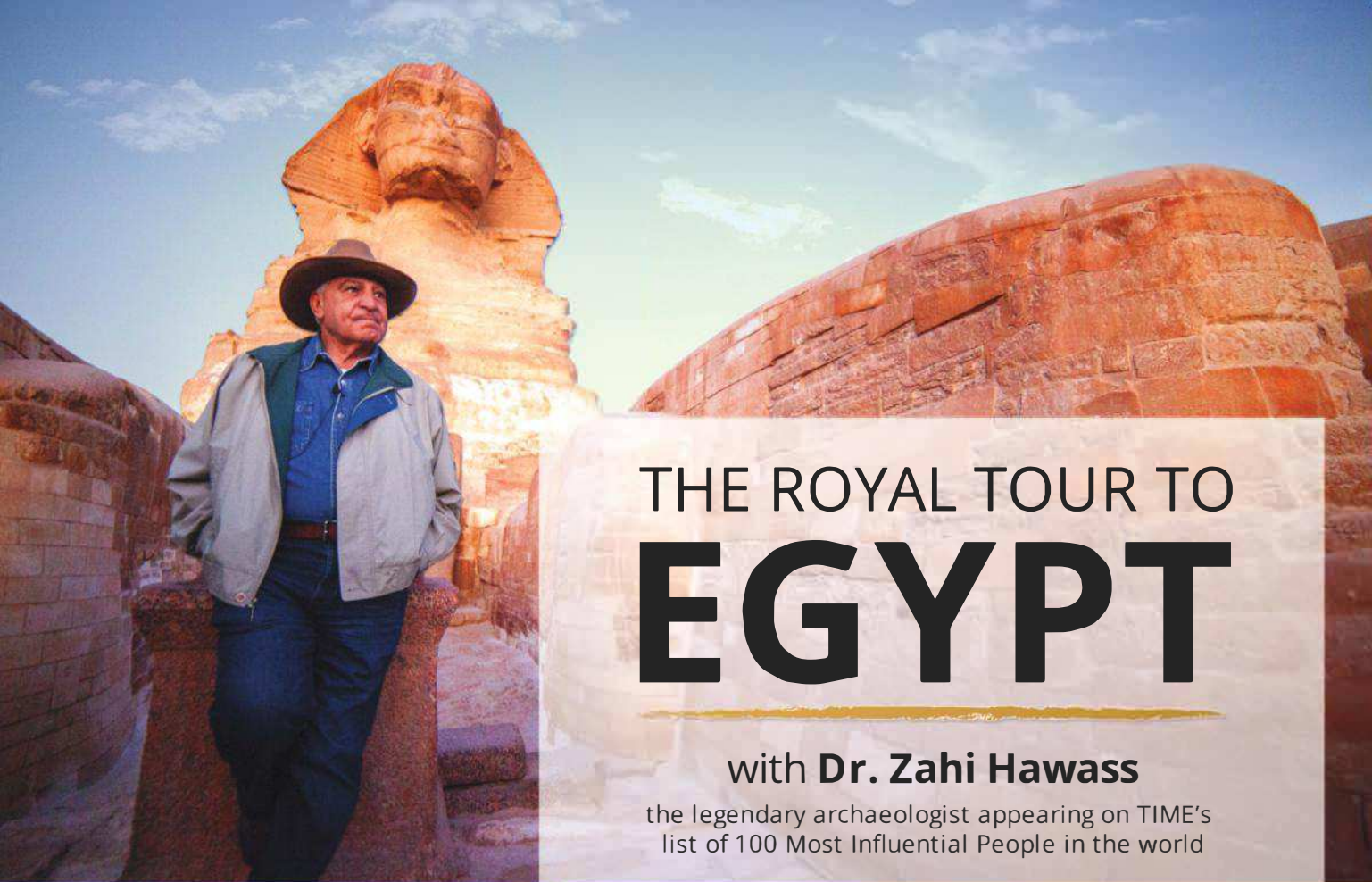
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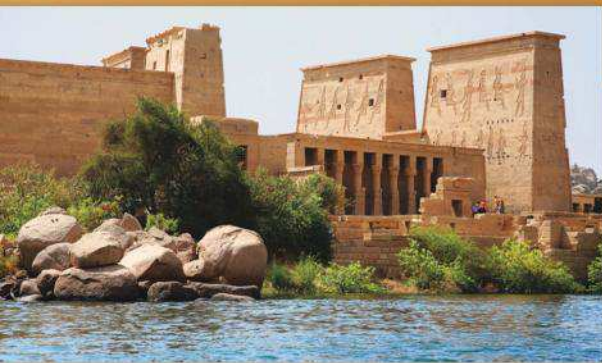
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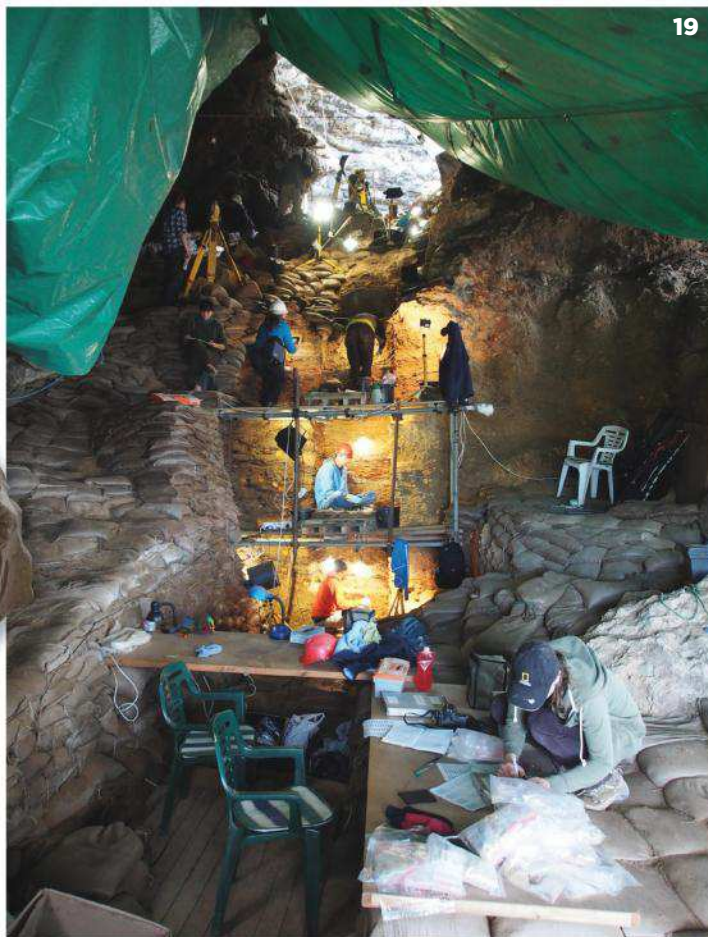
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OUR ANCESTRAL ATTICS

In “Westminster Abbey’s Hidden History” (page 32), contributing editor Jason Urbanus reports that artifacts spanning more than seven centuries have been discovered some 70 feet above the Abbey’s main aisle in the triforium level. The arcaded gallery, made up of the arches and recesses formed by the Abbey’s vaulted ceiling, apparently was the place to leave—and forget—items of all sorts from the storied past of a building that is synonymous with Britain.



Lekythos,
Phaleron, Greece

“The City at the Beginning of the World” (page 26), by Lizzie Wade, covers the work of archaeologists at the site of Nixtun-Chi’ch’ in northern Guatemala, where updated GPS mapping techniques are revealing the city’s long-hidden urban grid, the only one known in the Maya world. Dating to before 500 B.C., Nixtun-Chi’ch’, the layout of which appears to reflect details from an ancient creation myth, successfully supported thousands of residents for millennia.

In “Haiti’s Royal Past” (page 36), by senior editor Daniel Weiss, we learn that Sans-Souci, the early nineteenth century palace built by Haiti’s first and only king, Henry I, and the fort above it are dramatic early evidence of the then newly independent nation’s attempt to engage with other monarchies on the world stage. Sans-Souci, now more than 200 years old, still inspires pride in Haitians eager to learn what archaeologists may yet discover there.

Executive editor Jarrett A. Lobell reports on the work of a multidisciplinary project at Phaleron, a sprawling Archaic-era burial ground, in “Ancient Athens’ Other Cemetery” (page 48). There, archaeologists have uncovered nearly 1,900 burials, most of which have been carefully moved to a lab at the American School of Classical Studies at Athens. Researchers are now beginning to fill in details about ancient Athens’ population in the unsettled period when democracy was barely in its infancy, one story at a time.

“Letter from England: Inside the Anarchy” (page 55), by contributing editor Kate Ravilious, tells the story of England’s first civil war, long known as the “Anarchy” for its brutal impact on the civilian population. The twelfth-century conflict, which lasted some 20 years, flared up when cousins Empress Matilda, rightful heir to her father’s throne, and the self-appointed King Stephen vied for control, drawing the country’s nobles into their feud. Archaeologists are now finding evidence, in the fortresses each side built, that the nature of the struggle may not have been what historians believed.

And do not miss “An Etruscan Family Story” (page 44), with text and photos by Marco Merola, about the discovery of a wealthy, multigenerational home in Tuscany, and what it reveals about the fight to control Rome in the first century B.C.

Claudia Valentino

Claudia Valentino
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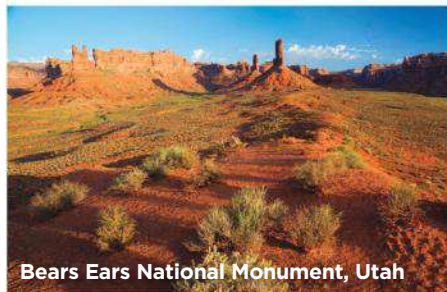
FROM THE PRESIDENT

OUR NATIONAL MONUMENTS IN PERIL

Founded in 1879, the Archaeological Institute of America (AIA) is well known for the study of ancient sites in the Mediterranean. Less well known is the Institute's role in investigating and protecting archaeological sites in the United States and how these efforts have promoted the preservation of cultural heritage around the world.

Not long after the AIA was established, its leaders invited anthropologist Lewis Henry Morgan, president of the American Association for the Advancement of Science (AAAS), to help plan its activities in North America. Morgan encouraged the AIA to begin a systematic investigation of Native American monumental architecture in the United States. The AIA's archaeological surveys in the American Southwest revealed extensive plunder of ancient pueblos and cliff dwellings.

In response, the AIA joined the Smithsonian Institution, the American Museum of Natural History, and scholars at universities and cultural institutions across the country



Bears Ears National Monument, Utah

to promote archaeological preservation in the United States. In 1899, committees convened by the AIA and the AAAS proposed the first draft of what would become known as the Antiquities Act.

The Antiquities Act represents an important milestone in the protection of cultural heritage. It prohibited looting on federal lands, required a permit for archaeological excavations, and gave the president of the United States the

authority to declare as national monuments places that encompass "historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest."

President Theodore Roosevelt signed the Antiquities Act into law in 1906. Since then monuments have been established across the country, from Muir Woods (1908) to the Statue of Liberty (1924). Republican and Democratic presidents alike have set aside more than 280 million acres of public lands and waters, protecting natural, cultural, and scientific sites. Inspiring the adoption of similar preservation measures in the Mediterranean and beyond, the Antiquities Act has become a global model for protecting cultural heritage.

Today the achievements of the Antiquities Act are at risk. The proposed National Monument Creation and Protection Act, H.R. 3990, erects hurdles that would make it virtually impossible for presidents to designate national monuments. It bars presidents from designating marine national monuments and gives them the authority to reduce the size of existing national monuments. H.R. 3990 eliminates what the AIA fought for over a century ago—the presidential authority to safeguard cultural heritage in a timely way.

The measure has already been approved by the House Natural Resources Committee as of this writing and will come to a vote in the full House. The Archaeological Institute of America opposes H.R. 3990. You can help by urging your lawmaker to protect heritage and to vote against H.R. 3990.

Jodi Magness

President, Archaeological Institute of America

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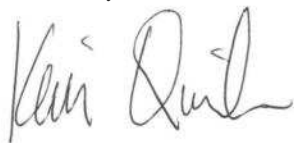
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FROM THE TRENCHES

LATE-BREAKING NEWS AND NOTES FROM THE WORLD OF ARCHAEOLOGY

SUN STORM

A massive disk of intricately carved stone looms over a gallery in Mexico City's National Museum of Anthropology. The stone has long been an emblem of Mexican identity. Commissioned by the Aztec ruler Moctezuma II (r. 1502–1520), the nearly 12-foot-wide stone was completed during his reign, in about 1511. Eight years later, when Spanish conquistadores saw it atop a platform in the Aztecs' central temple, the Templo Mayor, in the capital city of Tenochtitlan, one described it as "round, like a figure of the sun." When the Spaniards leveled the capital, the stone disappeared, only to be rediscovered in 1790 beneath the city's main plaza, the Zócalo, a block from where the conquistadores had seen it.

The meaning of this 22-ton disk of volcanic basalt has been subject to a variety of interpretations. The first article written about it in 1792 suggested that it functioned as a clock or sundial. Most researchers have concluded that the figure at the stone's center represents an Aztec deity, possibly the sun god Tonatiuh—and most still do. But now archaeologist David Stuart of the University of Texas at Austin has a provocative new theory about the central figure. He presented it in the magazine *Arqueología Mexicana*, and his reading of the famous artifact has set off debate among scholars of ancient Mexico in the magazine's pages and beyond.

Citing iconic messages on the stone and comparisons to other monuments, Stuart

suggests the figure is Moctezuma II himself, represented as the sun god. "People would have seen it as a depiction of the ruler, with the face of the king and the face of the sun being one and the same. The overlap between kings and gods was very important to the Aztecs," says Stuart. He notes that a glyph above the face reads "One Flint," the name for the year in which the god Huitzilopochtli was believed to have migrated from his mythic homeland to the central valley of Mexico at the dawn of the Aztec state. Another glyph, slightly to the left, represents a



Aztec stone

FROM THE TRENCHES

xiubhuitzolli, a diadem or headdress, worn by the Aztec ruler himself. Stuart believes the two glyphs, taken together, send a clear message of royal power and identity. “It’s a portrait of the deified king. Aztec commoners would have read ‘This is the king. The king is a god.’ Seeing the central figure as a portrait makes it a very historical and political monument.”

Other Mesoamerican experts, however, disagree. Archaeologist Eduardo Matos Moctezuma, former director of the Templo Mayor excavations, has argued that Stuart’s interpretation is groundless. He writes in *Arqueología Mexicana* that Stuart has misread the

glyph that he believes represents the royal headdress, which, he says, is, instead, part of a longer glyph with no direct relation to the ruler. Moreover, the man in the center of the stone has a tongue-like sacrificial knife hanging out of his mouth. According to Matos, no other portrait of an Aztec ruler has such an attribute.

Patrick Hajovsky, a Southwestern University archaeologist, also disputes Stuart’s theory, saying that although the glyph to the left of the figure might indeed be that of Moctezuma, that would not mean the figure depicted is the king. “By that logic, then, the central figure could just as well be Huitzilo-

pochtli, the god whose name appears in the innermost circle,” he says. He observes that in other works featuring Moctezuma, he never appears in the center of the sun, “but rather to its side, making offerings.”

Stuart admits that by arguing that the stone depicts an actual person—not a god—he is, in a way, demystifying it. “They would have seen it as a person, and I guess that brings it down to earth,” he says. Yet the face is more than just a portrait of Moctezuma. “It plays off multiple identities that revolved around kings and deities,” he says. “The face is several things at once.”

—ROGER ATWOOD

OFF THE GRID COLONIAL PEMAQUID STATE HISTORIC SITE, MAINE

The remains of an early and tenacious English outpost in North America can be found on the Pemaquid Peninsula of Maine’s south-central coast. Colonial Pemaquid began as a seasonal fishing community on the islands of Monhegan and Damariscove in the first decade of the seventeenth century. Settlers representing wealthy Bristol merchants built a village on the site by the late 1620s and began trading with French colonists to the north and members of the Wabanaki Confederacy, whose ancestors had lived in the area for millennia. Wabanaki war parties destroyed Pemaquid’s main village in 1676 and again in 1698, along with two forts built successively to protect the settlement.

The village ruins lie at the center of a site where archaeologists have been working since the 1960s. Finds uncovered, including a German bellarmine stoneware jug, a Venetian trade bead, Caribbean coral fragments, and a Yoruba divination tapper made of elephant ivory, suggest that Pemaquid was not merely a site of conflict, but also a nexus for goods and people from around the maritime world. “It was a small settlement on the fringes of New England that was isolated in one sense,” explains Neill De Paoli, Colonial Pemaquid park manager, “but at the same time it was part of a large international network that extended well beyond the coast of Maine to the Caribbean, West Africa, and Europe.”

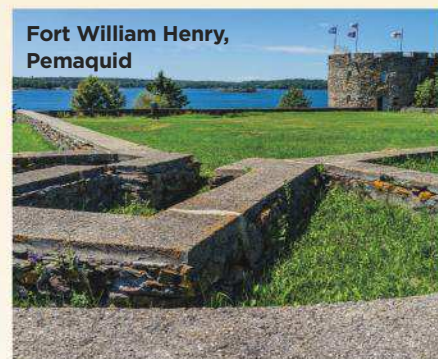
THE SITE

Visitors will first encounter a partial reconstruction of the 1692 Fort William Henry, which houses exhibits on the lives of soldiers posted at Pemaquid and parleys held among the Wabanaki, the French, and the English. Continue on to the museum to watch a video overview of Pemaquid’s history and the archaeological research conducted at the site. The museum displays many prehistoric and colonial artifacts discovered in the area, as well as a wealth of information about the region’s Native American heritage, the seventeenth-cen-

tury fishing industry, and the business of tavern-keeping. Daily tours include a visit to a reconstructed wattle-and-daub cottage, where, on weekends, interpreters ply trades such as blacksmithing and carpentry.

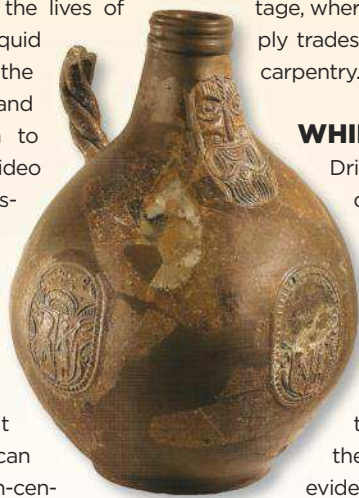
WHILE YOU’RE THERE

Drive just south to the Pemaquid Point Lighthouse, commissioned by President John Quincy Adams in 1827, to learn about the local economy at the Fishermen’s Museum, or head back inland to the town of Damariscotta to see the Whaleback Shell Midden, evidence of thousands of years of

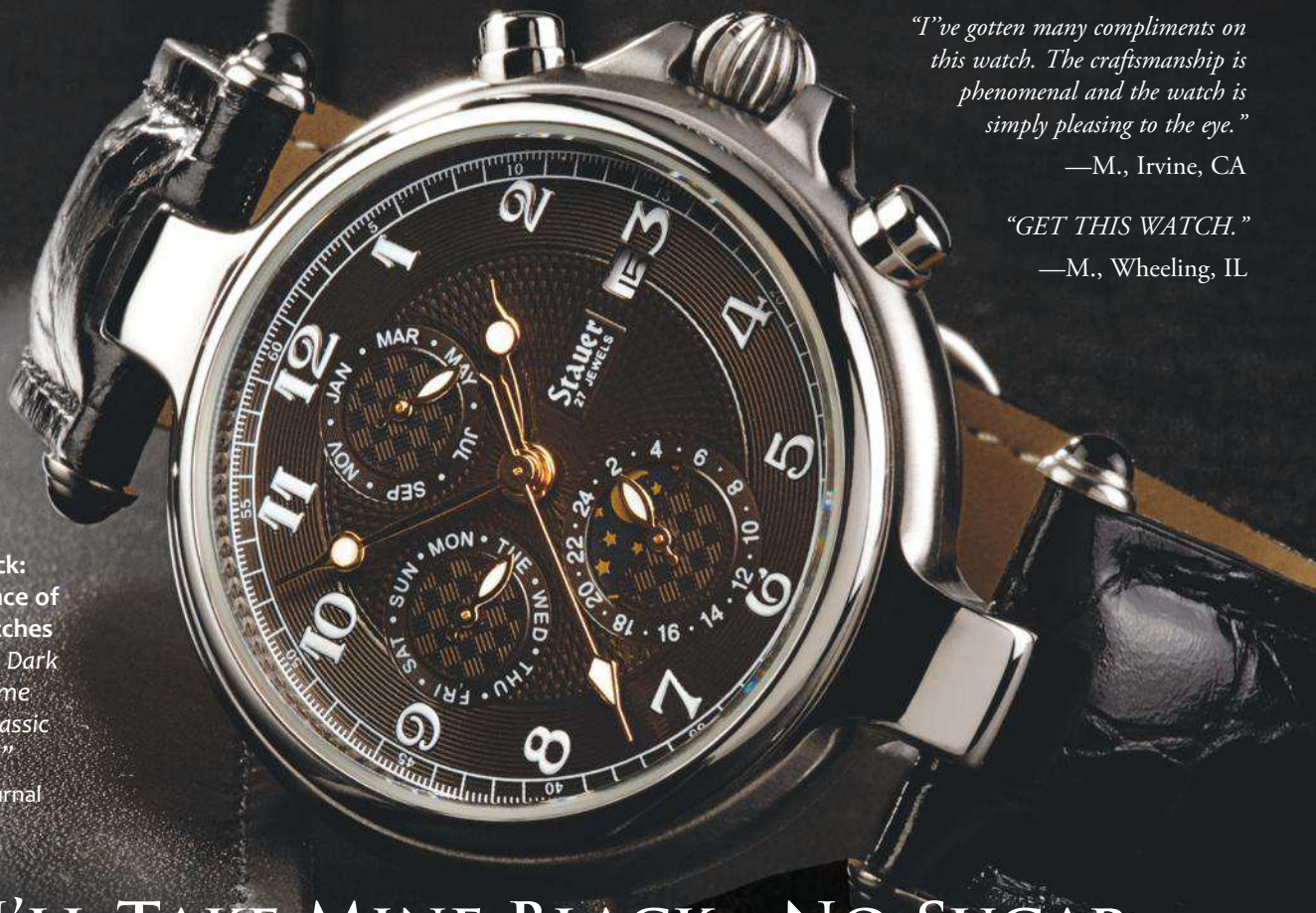


indigenous communities sustained by the sea. Hungry travelers in search of their own seafood lunch should head to nearby New Harbor for a lobster roll and spectacular views that were shared by sailors returning from Monhegan in the 1620s.

—MARLEY BROWN



Bellarmine jug



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— Men's Journal

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In the early 1930s watch manufacturers took a clue from Henry Ford's favorite quote concerning his automobiles, "You can have any color as long as it is black." Black dialed watches became the rage especially with pilots and race drivers. Of course, since the black dial went well with a black tuxedo, the adventurer's black dial watch easily moved from the airplane hangar to dancing at the nightclub. Now, Stauer brings back the "Noire", a design based on an elegant timepiece built in 1936. Black dialed, complex automatics from the 1930s have recently hit new heights at auction. One was sold for in excess of \$600,000. We thought that you might like to have an affordable version that will be much more accurate than the original.

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HONORING OSIRIS

Chapel of Osiris-Ptah Neb-anekh, Karnak, Luxor, Egypt



Archaeologists working near the temple complex of Karnak in Luxor, Egypt, are making sense of an out-of-the-way chapel devoted to the god Osiris. The remains of the Chapel of Osiris-Ptah Neb-anekh lie south of Karnak's Tenth Pylon and east of the famed avenue of ram-headed sphinxes. The structure is believed to have been built by the 25th Dynasty Kushite pharaohs Taharqa and Tantamani—who are represented on reliefs within the chapel—in the seventh century B.C., and was



Column remains

Relief



originally discovered by locals in the nineteenth century. Researchers have now mapped the building's entrance and foundations, and have uncovered a collection of clay pots and statue fragments. "Every king wanted the honor of making a mark on the great religious complex of Karnak," explains project director Essam Nagy of the Egypt Exploration Society. "The cult of Osiris had grown in importance, so the Kushite-period rulers built shrines and chapels at the site to reflect that."

—MARLEY BROWN

MIRROR, MIRROR

Five lead mirror frames dating to the turn of the third century A.D. have been found in a square build-



Roman villa, Bulgaria



Mirror frames

ing at a Roman villa outside the town of Pavlikeni in northern Bulgaria. Three of

the frames are decorated with the image of a large wine vessel and bear an inscription that means a "good soul." The villa belonged to a Roman military veteran and was built around the turn of the second century A.D. The building where the frames were found was thought to have housed villa workers. But, says excavation leader Karin Chakarov of the Pavlikeni Museum of History, the presence of the mirror frames suggests it may instead have been a temple.

—DANIEL WEISS

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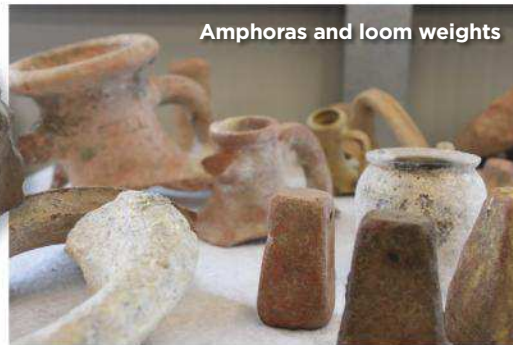
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FROM THE TRENCHES

POMPEII REVISITED



Lion
spout



Amphoras and loom weights



Fresco fragments



Newly excavated area abutting previously excavated building, Pompeii, Italy

To celebrate the 270th anniversary of Pompeii's discovery, authorities have revealed the latest finds unearthed in the famous ancient Roman city. The current excavations, which are part of the largest exploration of new material since World War II, took place in a 1,200-square-yard strip along the northern border of the site, where the unexcavated and excavated parts of the city abut. Although there is a moratorium on any digging in roughly one-third of the site that remains buried from the A.D. 79 eruption of Mount Vesuvius, the current project is part of essential conservation work aimed at stabilizing high earthen sections of the unexcavated city that are susceptible to collapse.

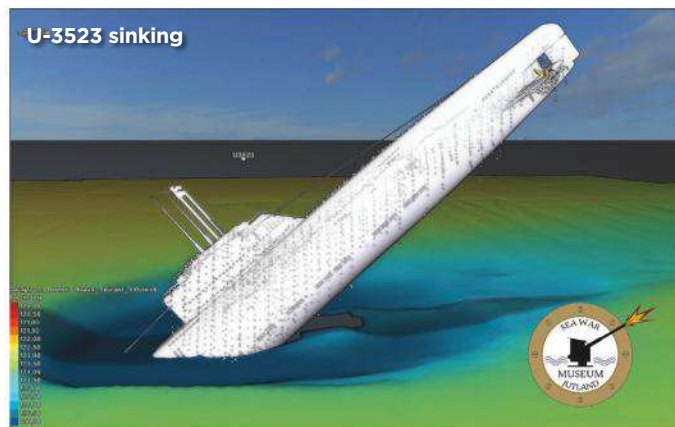
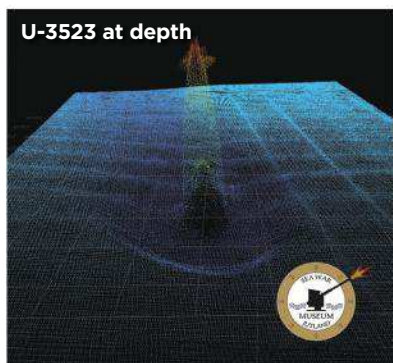
Archaeologists first had to remove soil that had accumu-

lated during nearby excavations in the nineteenth and early twentieth centuries. To their surprise, they found a wealth of ancient material in these deposits, including fragments of frescoes, broken artifacts, and architectural decorations that had been disregarded by previous excavators. After the subsequent removal of the ash volcanic layers, parts of an ancient street as well as several buildings and a garden were brought to light for the first time in almost 2,000 years. The entranceway to one partially excavated house exposed the remains of a well-preserved fresco that features a pair of dolphins painted on a dark red background.

—JASON URBANUS

NAZI SUB DISCOVERED

Researchers from Denmark's Sea War Museum Jutland used multi-beam echo sounding to locate the wreck of infamous Nazi submarine U-3523 in 400 feet of water, 10 miles north of Skagen in the Skagerrak strait. The technologically advanced U-boat had the potential to revolutionize naval warfare because it could sail for prolonged distances without needing to resurface, but it was sunk by a British aircraft on May 6, 1945. "It was a surprise to find the submarine there, since we believed it was at least 10 miles to the east," says Gert Normann Andersen, museum director. "But on the scan we recognized the silhouette and were sure it was U-3523." After WWII's conclusion, rumors circulated



that the submarine may have been fleeing while carrying high-ranking Nazi officials and a cargo of Nazi gold. Since the wreck is being treated as a war grave and will not be disturbed, who or what U-3523 was actually transporting will remain a mystery.

—JASON URBANUS

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DIVINE INVITATION

A large papyrus sheet discovered in 1934 has been translated for the first time. It was found at the pyramid of Senusret I at Lisht in Lower Egypt by a team sponsored by the Metropolitan Museum of Art. The text is written in Coptic, an Egyptian language that adapts the Greek alphabet, and dates to the fifth or sixth century A.D., when Christianity was widespread in Egypt. According to Michael Zellmann-

Rohrer of the University of Oxford, who translated the text, it consists of a prayer, some of which would have been inscribed on a physical object to make what is known as a textual amulet. This is a well-known practice in the Egyptian tradition, but somewhat more unusual in a Christian context.

The text quotes at length from a prayer by Seth, a son of Adam and Eve, which is believed to have caused a theophany, or an appearance of God. “The user wants, if not a theophany, then at least the full attention of the divinity,” says Zellmann-Rohrer, “so the best way to achieve that will be to repeat the prayer that Seth is supposed to have used.” Another notable feature of the text is that it refers to an angelic power several times as “the one who presides over the Mountain of the Murderer.” Zellmann-Rohrer says this is likely to be a reference to an alternate version of the story of Abraham and Isaac from the Book of Genesis in which Abraham goes ahead with the sacrifice of his son rather than being stopped by God at the last minute.

—DANIEL WEISS



Coptic papyrus

SAMURAI NEST EGG

In a town just north of Tokyo, a ceramic jar filled with thousands of bronze coins has been unearthed at the site of a fifteenth-century samurai's residence. According to archaeologist Yoshiyuki Takise of the Saitama Cultural Deposits Research Corporation, the coins, which were cast in China, may have been an offering to the deity of the earth,

or may simply have been buried for safekeeping. Markings on a wooden tablet found on the rim of the jar indicate it could contain as many as 260,000 coins, a number that Takise says far exceeds what one would expect to find in circulation in what was then a rural area.

—ERIC A. POWELL



Ceramic jar



Jar with coins



Wooden tablet

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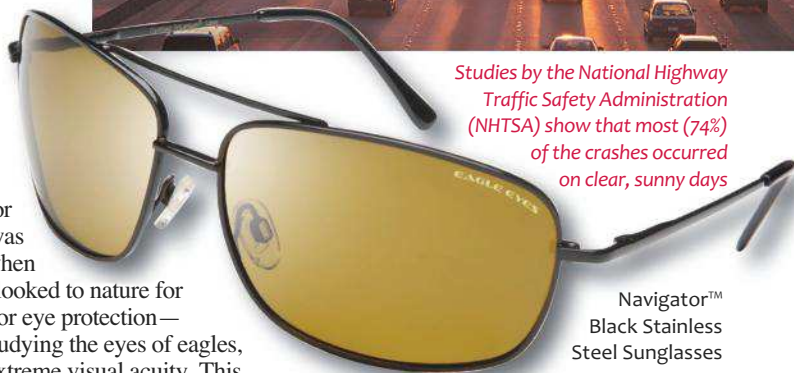
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FROM THE TRENCHES

FAR FROM HOME



Chinese laborers were brought to Peru in the mid-1800s to harvest cotton and sugar after slavery was abolished in 1854. Some later returned home—but many more stayed. Evidence is now coming to light that hints at the character of their lives in their new homeland.

Peruvian archaeologists have excavated the bodies of three workers buried with an array of Chinese artifacts. Wrapped in blankets and resting on the earth or interred in simple wooden coffins, all three were found while gas lines were being laid in Lima's Carabayllo district. The bodies were well preserved, indicating they were mummified either artificially before burial or naturally by the arid climate. One man was buried naked, his clothing folded on

his torso, with an opium pipe and tarot cards. Two others were dressed in tunics, typical of Chinese laborers of the time, and sandals. One had a straw hat. "They wanted to leave with objects that accompanied them in life," says archaeologist Cecilia Camargo. They also likely wished to maintain their native traditions.

In what appears to be a larger burial discovered at the summit of an Inca-era burial mound in Lima's Santa Anita district, archaeologist Roxana Gómez of the Ministry of Culture excavated the remains of 30 Chinese immigrants between 2015 and 2017. Chinese people were excluded from Catholic cemeteries, accounting for their burial in a pre-Hispanic site, she says. The deceased probably worked at nearby farms as indentured laborers.

—ROGER ATWOOD



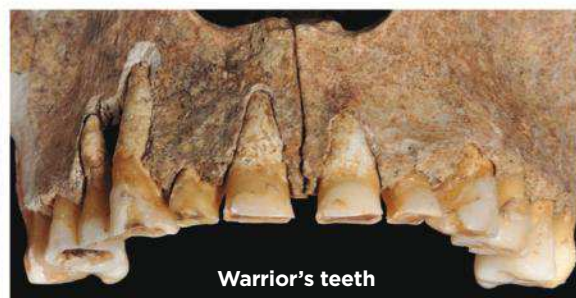
Inscribed tablets

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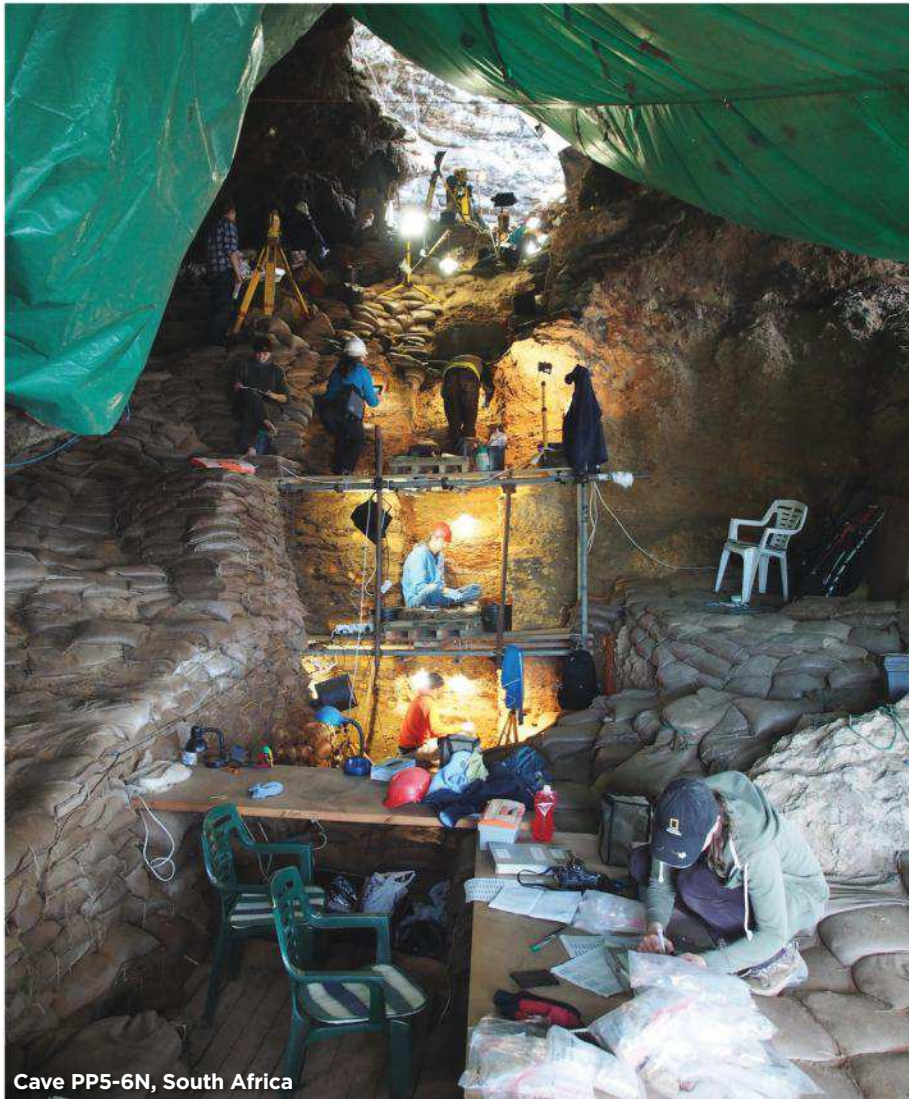
A sixth-century Lombard warrior buried in northern Italy appears to have worn a prosthetic weapon. A knife and buckle were discovered along with evidence that his forearm had been amputated. The stump was positioned across his chest and researchers identified a callus and bone spurs consistent with pressure from a prosthetic device. Significant wear on his teeth suggests he used them to tighten its straps. According to Ileana Micarelli of the Sapienza University of Rome, the man, possibly a combatant in the

A.D. 568 Lombard invasion of Italy, was well cared for following the operation. "The strength of his relationship with the community is at the heart of the surgical intervention's success," she says. "And in my opinion, social relations are as important as the level of medical technology."

—MARLEY BROWN



PINPOINT PRECISION



Cave PP5-6N, South Africa

The cataclysmic eruption 74,000 years ago of Sumatra's Mount Toba caused a volcanic winter and may have nearly annihilated the earth's human population. The search for evidence of that eruption has contributed potentially groundbreaking advances to archaeological dating. Working at two sites on the coast of South Africa, researchers have discovered a layer containing glass shards from the blast that fell over a two-week period and are invisible to the naked eye. The precise time frame provided by the shards can serve as a control to test methods for dating rock shelters and other sites occupied millennia ago. "We've now sampled several other cave sites in South Africa looking for evidence of the Toba eruption," explains archaeologist and paleoanthropologist Curtis Marean. "If we can find it, we can align those chronologies to a two-week precision—which is unprecedented." As for the people living there, shell midden and toolmaking evidence suggests they survived, and even grew more productive. Marean says, "Hunter-gatherer economies are resilient because they can switch resources when needed."

—MARLEY BROWN

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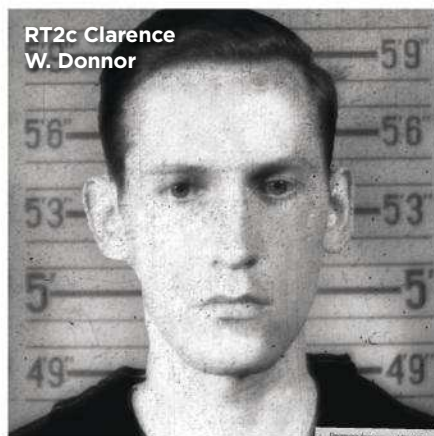
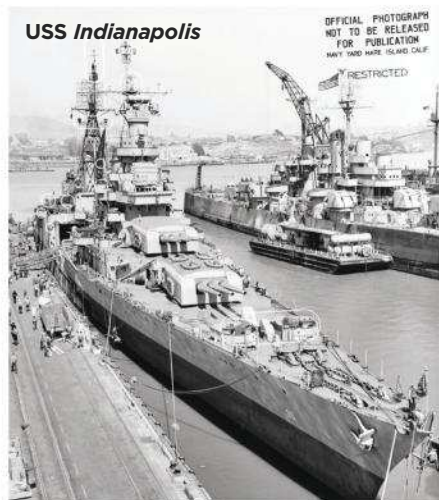
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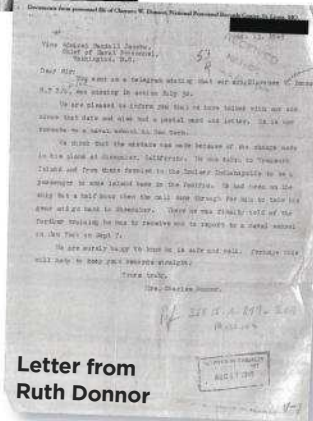
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A FINAL ACCOUNT

When USS *Indianapolis* was found last year (“Top 10 Discoveries,” January/February 2018), it laid to rest some of the questions that had always surrounded the location of her sinking. However, the exact number of people aboard *Indianapolis* when she went down continued to be debated. This uncertainty, too, has now been resolved, with the final correct number



established at 1,195, not, as was previously believed, 1,196. While researching the discrepancy, naval historian Richard Hulver found a letter from Radio Technician 2nd Class Clarence W. Donnor's mother, Ruth, in reply to a telegram informing her that her son had perished. She wrote that she had,



in fact, spoken to Clarence since July 30, 1945, the day *Indianapolis* sank to the bottom of the North Pacific. The letter clarified that although RT2c Donnor had been on *Indianapolis* in San Francisco where she was docked, within an hour of arriving there, he received new orders to go to officer training in New York and left the day before the vessel departed on her final voyage. “I was somewhat surprised by the file,” says Hulver. “I felt relief for the Donnors that their son escaped being part of that voyage. There was also a sense of

gratefulness as a historian that Mrs. Donnor submitted her letter. She finished it with the hope that it would ‘set the record straight,’ and it did—just 73 years later.” The official number of those who died in the attack has also been revised from 880 down to 879 to account for RT2c Donnor.

—JARRETT A. LOBELL

SEAWORTHY SUMERIANS

The Sumerians are known for having established one of the world's earliest agricultural civilizations, but a chance discovery in southern Iraq suggests they also traveled the seas and conducted long-range trade. In 2016, researchers from the Sapienza University of Rome were excavating at the site of Abu Tbeirah when they spied clay bricks in a foxhole. In the years since, they have found remains of brick ramparts along

with docks and an artificial basin that served as the town's port. Dating back more than 4,000 years, it is the oldest harbor ever to have been discovered in Iraq.

The researchers have also found carnelian beads from India along with alabaster vases and other objects that must have been procured overseas. The finds are surprising because the extensive records Sumerians left behind in the form of

cuneiform tablets include a great deal of information about farming, but little about seafaring. “The texts speak mainly of agriculture because it required the most organization,” says excavation codirector Franco D’Agostino. Archaeology is helping to make clear how important seafaring was to them as well.

—DANIEL WEISS



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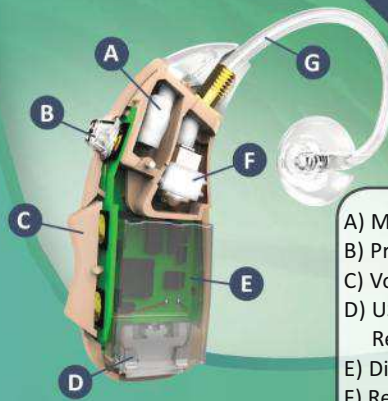


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TALES OUT OF SCHOOL

One of the largest urban excavations ever conducted in Oxford, England, has revealed artifacts relating to the lives of medieval students and clergy at the city's famous university. Hundreds of items recovered from the site of Greyfriars, a Franciscan friary connected with Oxford, founded in 1224 and closed in 1538 during



Leather backpack



Greyfriars, Oxford, England

King Henry VIII's dissolution of the monasteries, include writing styluses, book clasps, leather sandals, and glass vials possibly used for experiments, as well as animal bones, cutlery, beer mugs, and jugs for storing wine. According to Ben Ford of Oxford Archaeology, ample evidence of eating and drinking suggests pleasures of the table held considerable importance for the community. "We are

looking in particular at the food remains," he says. "Did they adhere to their vow of poverty, and did this change through the life of the friary? Are there any indications of higher status foodstuffs, and how did the diet of the friars compare to that of the ordinary townsfolk?"

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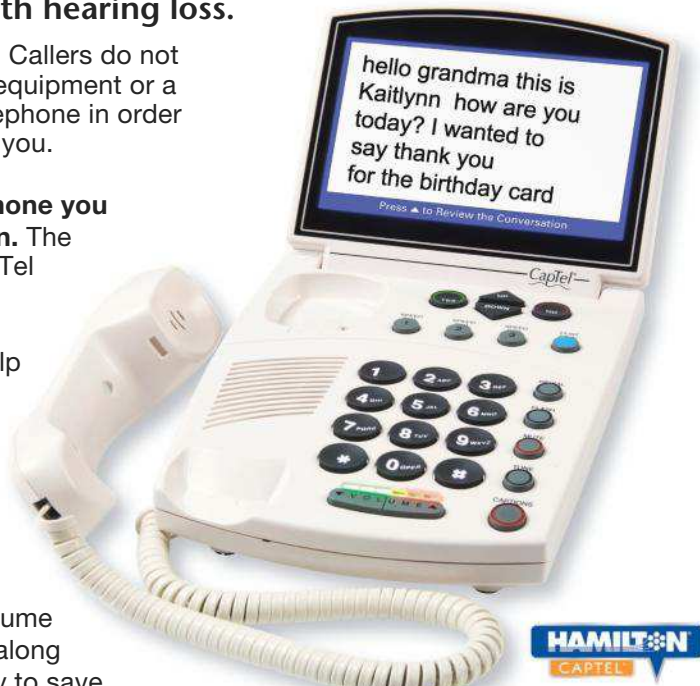
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NEW MEXICO: Fossilized footprints from a dry lake bed in White Sands National Monument divulge an extraordinary interaction between humans and a ground sloth 10,000 to 15,000

years ago. Human tracks superimposed on the prints of the giant sloth show how people carefully stalked the beast. The sloth's trail suggests it then employed a series of evasive maneuvers and even reared up on its hind legs, likely to defend itself. It is not known exactly why giant sloths went extinct, but human hunting may have contributed to their demise.



SCOTLAND: The Roman builders of the Antonine Wall used vibrantly painted sculptures as a propaganda tool to convey Rome's superiority over

native Scottish tribes. When the wall was built in the mid-2nd century A.D., sculpted blocks depicting Rome's military exploits were periodically embedded into it at strategic locations. X-ray and laser technology has now shown for the first time that they were originally finished with red and yellow paint, which would have enhanced their visual impact.



FRANCE: A hole in a 5,200-year-old cow skull is evidence of Neolithic bovine brain surgery. When the cranium was originally found at Champ-Durand,

it was thought that the hole was caused by another cow's horns, but reanalysis confirmed that the aperture's characteristics are more consistent with trepanation. Experts believe that perhaps the world's first known veterinarian attempted to save the cow's life through surgery, or that Neolithic surgeons honed their skills on domestic animals before applying them to human subjects.



PERU: New evidence from the Chimú Empire site of Las Llamas is underscoring just how gruesome was an event that occurred there 550 years ago. The skeletons of 140 children between the ages of 5 and 14 attest to perhaps the world's largest single episode of child sacrifice. Footprints reveal how the children were dragged to the site before being ritually slaughtered with knife blows to the sternum. Severe weather patterns and flooding may have caused the community to undertake such measures.



SUDAN: Excavations in Sedeinga uncovered one of the largest collections of Meroitic inscriptions ever found. Known as the "city of the dead," the 60-acre site housed an important necropolis dating to the kingdoms of Napata and Meroe, which flourished from the 7th century B.C. to the 4th century A.D. Meroitic is the oldest known written language in sub-Saharan Africa, and although it is only partially understood, the newly found inscriptions are funerary in nature and contain biographical information about the deceased.



SWEDEN: What Swedish archaeologists first believed was a giant nut unexpectedly turned out to be the country's oldest known onion. The charred bulb was discovered near a fireplace at the 5th-century A.D.

Sandby Borg ringfort on the island of Öland. Although onions were common in Roman diets, they were not part of Scandinavian cuisine at the time. Because the inhabitants of Sandby Borg maintained close trade links with the Roman Empire, they were able to import the exotic vegetable.



RUSSIA: Advanced dating techniques have shown that the famous Shigir Idol is an astounding 11,600 years old, even older than previously thought. It is now considered the oldest known monumental wooden sculpture, having been carved near the end of the last Ice Age. The human-shaped larch wood figure was originally pulled from a peat bog in the Ural Mountains in the late 19th century, stands over 17 feet high, and is engraved with zigzag patterns and human faces.



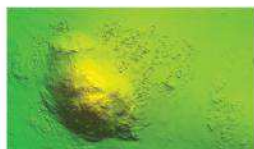
AUSTRALIA: When workers constructing a rail line south of Sydney discovered a trove of Aboriginal artifacts, archaeologists at first were baffled.

Many of the stone tools were crafted from flint, which is not native to the area. A subsequent investigation concluded that the flint was actually chemically identical to samples found along the Thames River in London. The flint cobbles were likely loaded onto ships in England for ballast and then discarded in Australia, where they were repurposed by Aboriginal artisans.



SAUDI ARABIA: A finger bone from the Al Wusta site in the Nefud Desert is again changing the story of how and when modern humans dispersed from Africa. Dating to between 85,000 and

90,000 years ago, it is the oldest *Homo sapiens* fossil ever found outside of Africa and the Levant. It was once thought that humans migrated out of those areas only around 65,000 years ago, but this new discovery suggests that they had already arrived in the Arabian Peninsula and, likely, other places, earlier than that.



SOUTH AFRICA: Lidar technology helped relocate a lost settlement in the Suikerbosrand hills south of Johannesburg. The Tswana-speaking city thrived from the 15th to the mid-19th century before civil wars caused its collapse. Although previous excavations had exposed some ruins in the area, the full extent of the site was unknown until now. The temporarily named SKBR settlement was once spread across a 6-mile-long area and contained as many as 850 homesteads.



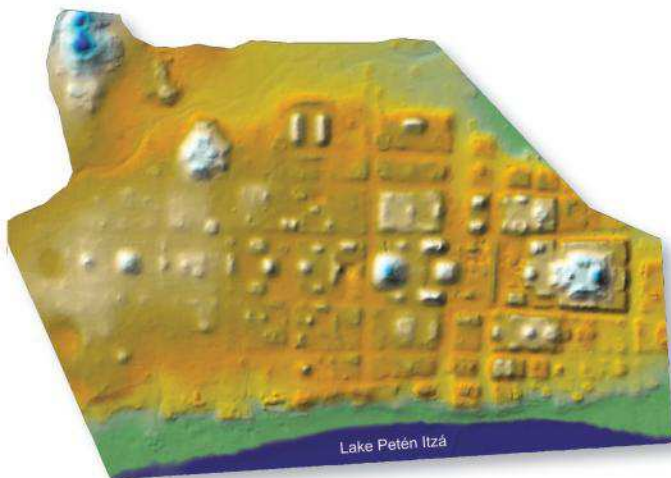


THE CITY AT THE BEGINNING OF THE WORLD

The only Maya city with an urban grid may embody an ancient creation myth

by LIZZIE WADE

FOR YEARS, ARCHAEOLOGIST Timothy Pugh thought he was simply following the cows as he walked across the site of Nixtun-Ch'ich', an ancient Maya city in northern Guatemala. The site, whose name means, roughly, "a rocky place," is located on a peninsula that juts out like a pointed finger into Lake Petén Itzá. It is now part of a cattle ranch, covered with tall grass—perfect grazing land. Most of the other Maya sites in the area are obscured by dense thickets of jungle, so this was a lucky break for Pugh and his colleagues. Still, the nearly knee-high vegetation wasn't easy to move through. Pugh tended to follow the paths the cattle had already created as they tamped



A peninsula jutting into Guatemala's Lake Petén Itzá (left) is the site of the ancient Maya city of Nixtun-Ch'ich'. New mapping of the city (above) shows it was laid out on a grid pattern, the only one known in the Maya world.

the grasses down with their hooves while they grazed, picking their way between mounds containing the remains of ancient ceremonial platforms up to 13 feet high.

With an area of about one square mile, Nixtun-Ch'ich' was unusually compact compared to other Maya cities, which were largely spread out throughout the jungle. Back in 1995, Pugh, now at Queens College, and his adviser at the time, Prudence Rice, an archaeologist and professor emerita at Southern Illinois University Carbondale, mapped the site by identifying ancient buildings from their raised outlines on the surface and recording a GPS point at each of their corners. But by 2013, Pugh thought the map of Nixtun-Ch'ich' was due for an update. New technology had transformed mapping techniques, allowing archaeologists to gather more GPS data than ever before, including subtle changes in terrain. "We collected 80,000 points in just a few months. With the old machines, that would have taken years," Pugh says. More importantly, he no longer had to limit himself to the buildings he could see. Now, Pugh could simply record a GPS point every 6.5 feet, whether he thought there was a building there or not. "In that way, you don't bias the data while you're working," he says.



Among the artifacts unearthed at Nixtun-Ch'ich' is this ceramic human figurine dating to the Middle Preclassic (800–500 B.C.), the same period when the city's urban grid was established.

with shorter north-south avenues intersecting them at nearly perfect 90-degree angles. It was unmistakable: Nixtun-Ch'ich' was laid out on a grid, an urban form so unusual in Meso-

america that Pugh and Rice had never even thought to look for it. Pugh then realized that the paths he had been following through the grass weren't originally created by grazing cattle. The animals were walking along ancient streets, and he had been too.

"In the Maya area, it's unique," says Pugh. "There's no other site like it that we know of yet." David Freidel, an archaeologist at Washington University in St. Louis who studies the Maya, agrees. "It's an astonishing discovery," says Freidel. "It's a planned, gridded city. It has big plazas, big pyramids...it has everything you expect, only it's not dispersed over a landscape." Nixtun-Ch'ich' is so far outside the norms of Maya city planning that Pugh and Rice first thought that foreigners must have built it. But as they've continued to excavate, they've realized that Nixtun-Ch'ich' was unequivocally a Maya

invention—and that it might reveal why these ancient people settled down and built cities in the first place.

AT FIRST, PUGH AND RICE believed they understood the significance of the grid. The only other Mesoamerican city laid out on a grid was Teotihuacán, 600 miles to the north. From A.D. 100 to 550, Teotihuacán was the most powerful empire in central Mexico, and its influence stretched



The remains of well-built stone structures, such as this small ceremonial building, have long been concealed by the grassy mounds of Nixtun-Ch'ich'.

The effort quickly paid off. The GPS equipment detected slight rises and falls in the landscape that had been all but invisible beneath the grass. Buildings and streets Pugh hadn't noticed before began emerging from the data. And when he started piecing together a new, more complete picture of Nixtun-Ch'ich', a striking pattern jumped out at him. The city's buildings were arranged in straight lines, like the structures on a modern city block. Major streets ran almost exactly east-west,

well into the Maya world. Hieroglyphic stelae at sites including the Classic Maya capital of Tikal, just 45 miles northeast of Nixtun-Ch'ich', demonstrate just how influential Teotihuacán may have been. They record the arrival of foreigners in Tikal in A.D. 378 and depict the newcomers carrying a type of spear-thrower called an *atlatl* and wearing headdresses adorned with tassels, features commonly depicted in murals at Teotihuacán. Many archaeologists believe the foreigners were emissaries from Teotihuacán, but this wasn't a passing diplomatic visit, or even a trade mission. A year after the Teotihuacanos' arrival, Tikal's king died, and his successor is shown wearing Central Mexican garb. Somehow, the newcomers had taken over the throne, and they held onto it for generations.

So when Pugh and Rice began trying to figure out who built Nixtun-Ch'ich' and why, they immediately turned to Teotihuacán. Its grid was precise, covering nearly 14 square miles, and at the city's height, more than 100,000 people lived in its standardized multifamily apartment buildings divided into well-planned neighborhoods. While Nixtun-Ch'ich' was much smaller than Teotihuacán, the similarity was striking. "I really, really thought that the Teotihuacanos had come into this area, established a base, and built a city that mimicked their home," says Rice.

When Pugh and Rice excavated in Nixtun-Ch'ich', however, they realized the grid was much older than they had initially thought. As they dug into the streets and avenues, they uncovered ancient plaster surfaces that once functioned like pavement, and they were able to collect tiny pieces of bone and charcoal. Once these had been radiocarbon dated, it became evident that the grid had been built before 500 B.C., at least 900 years before the Teotihuacanos arrived in the Maya area.

That meant Nixtun-Ch'ich' was built in the Middle Preclassic period, which lasted from about 800 to 300 B.C. "This is a time in which Maya society was changing," says Takeshi Inomata, an archaeologist at the University of Arizona who studies this period of Maya history. During the Middle Preclassic, the Maya switched from being hunter-gatherers who relied on the bounty of the jungle to farmers who grew maize, fruit, and many other crops. They settled down in their first cities, built huge ceremonial centers for religious rituals, and started trading with each other. "The Middle Preclassic period is really the beginning of Maya civilization," Inomata says.

Pugh was stunned by the city's antiquity. "It was once thought that grids were the apex of city

planning," he says. The first villages were settled organically, the thinking went, without any community or leader explicitly planning their layout. As they grew, they became more and more organized—and increasingly hierarchical. But Nixtun-Ch'ich' shows that wasn't always the case. "A grid doesn't have to be something that gradually develops over time," Pugh says. "It can just be made up at the very beginning of a city."

Living in Nixtun-Ch'ich' would have required habits and customs that would have been unfathomable to residents of other Maya cities. Unlike the densely populated urban core of Nixtun-Ch'ich', other Maya cities were decentralized, with clusters of buildings and plazas connected by roads through the jungle. Even at major capitals such as Tikal and Copán, in Honduras, the city was integrated into the forest. "There would have been very little green space in Nixtun-Ch'ich'," says Pugh. And much less privacy, with your neighbors always close by. Still, thousands of people successfully lived there for millennia, never building over the grid or modifying its layout to resemble other Maya sites. "Why?" wondered Pugh and Rice. What made Nixtun-Ch'ich' special?

MANY ARCHAEOLOGISTS WHO study the cities of the Middle Preclassic think their very designs were charged with religious significance. Rice pondered this premise in terms of Maya mythology. For example, these sites are often found to have incorporated a cenote, or water-filled sinkhole, into their layouts. Cenotes dotted the Maya lowlands and were the main source of fresh water in a landscape in which rivers and lakes are rare. But they had mythological as well as practical significance. In Maya cosmol-



An aerial view shows the excavation of a building that was laid out on the central east-west axis of the sacred landscape of Nixtun-Ch'ich'.



This large ceramic serving vessel is one of several unearthed at a natural depression, possibly the site of community-wide ceremonial feasts.

ogy they represented the underworld, which was conceived of as a watery cave to which the sun would return every night.

Given its location on a peninsula in Lake Petén Itzá—which, at 20 miles long, is by far the largest lake in the Maya lowlands—Nixtun-Ch'ich' wouldn't have needed cenotes to supply its fresh water. Pugh and Rice, though, think they have found one in the heart of the city's ceremonial center.

Today it is dry, visible as an eight-foot-deep depression that runs 150 feet north to south and 100 feet east to west. When Pugh and Rice dug excavation pits into the sides of the depression, they never reached bedrock, even after digging more than 20 feet below the surface—but the soil at that level was damp. This suggests the depression wasn't a human-made reservoir but rather a natural cenote that had once been open to the water table below. During the Middle Preclassic, it likely filled with water every year during the rainy season.

Just to the west of this probable cenote lies a significant ceremonial complex known as an E-group. Found in early cities all over the Maya lowlands, E-groups consist of a pyramid sitting directly west of a long platform that has three structures built atop it. From the steps of

the pyramid, facing east, one would see the sun rise over the three buildings. On the equinoxes the sun would be perfectly aligned with the center building, and on the summer and winter solstices it would rise directly over one of the other two. With the cenote lying just behind the eastern platform, as it does at Nixtun-Ch'ich', the sun would appear to be rising out of the watery underworld. According to M. Kathryn Brown, an archaeologist at the University of Texas at San Antonio who studies the Middle Preclassic, the builders of these early Maya sites “are trying to embed their worldview, their cosmology, into their city.”

Pugh and Rice found evidence that the people of Nixtun-Ch'ich' likely gathered at the cenote for rituals. Their excavations uncovered terraced walls along the edge of the cenote, where large groups of people could sit or stand during ceremonies. The ceramics they found in the depression were mostly large serving vessels, and they also uncovered turtle and other animal bones and snail shells—likely the remains of

community-wide feasts.

Rice knew, therefore, that Nixtun-Ch'ich', like many other Middle Preclassic Maya cities, was probably built to be a kind of sacred landscape, embodying religious beliefs and creating a space for the community to celebrate them. The pairing of the cenote and the E-group was a feature of the urban plan that clearly had mythological significance. So, she wondered,



At Nixtun-Ch'ich', the subtle remains of a pyramid (foreground, marked by two trees and a rusted tank), and a platform (covered, in part, by excavation tents), formed a ceremonial alignment known as an E-group.

could the grid also have its roots in Maya mythology?

From a cosmological perspective, the city's location on a peninsula was evocative. Creatures that could move between land and water carried particular symbolic weight in Maya mythology, and were considered beings that could straddle the Earth and the underworld. In fact, a common origin myth throughout Mesoamerica involved a crocodile floating in a primordial sea. At the Maya city of Palenque, for example, glyphs specifically describe this creature as a crocodile with a hole in its back. According to the myth, the gods slit its throat, and in the torrent of blood the Earth was created from its body.

When Rice imagined the peninsula of Nixtun-Ch'ich' as a crocodile sliding into the lake, the grid suddenly took on a new meaning. "Scales," she thought—the regularly spaced city blocks were the crocodiles' scales. The cenote was the hole in the back of the sacred crocodile whose body would form the world. A defensive wall, lined with a ditch, that runs 1,000 feet north to south near the eastern tip of the peninsula, could have represented the gash the gods made in the crocodile's neck. "Here we had this myth about a crocodile with a hole in its back floating in a primordial sea, and its throat being cut," says Rice. "And I look at the map of Nixtun-Ch'ich', and, my gosh, it's there!"

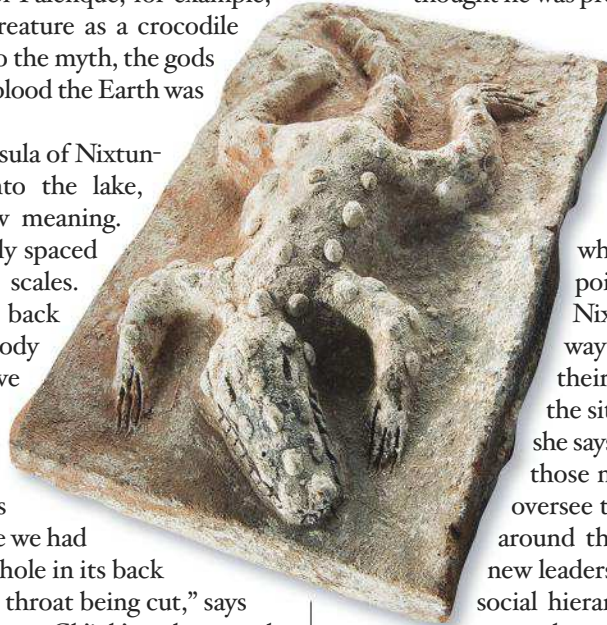
"I see the similarities—it's pretty hard not to," says Kathryn Reese-Taylor, an archaeologist at the University of Calgary who studies early Maya cities. "If it's anything, it would be a crocodile. But that's a very difficult hypothesis to actually prove." Inomata agrees. Without a one-of-a-kind artifact like a painting or a diorama that explicitly compares the layout of Nixtun-Ch'ich' to a crocodile, he says it's impossible to know if that's what the builders of Nixtun-Ch'ich' had in mind.

Other archaeologists find Rice's provocative hypothesis more convincing. Freidel describes the first time he looked at the map of Nixtun-Ch'ich' through the lens of the crocodile creation myth as like being "hit over the head by a two-by-four." And it fits nicely with archaeologists' growing understanding that early Maya cities were built as sacred landscapes, says Brown. Although Pugh didn't work with Rice to develop her crocodile hypothesis, he agrees the grid at Nixtun-Ch'ich' likely had a sacred meaning. "In Maya cosmology, an ordered universe was a good universe," says Pugh. "Nixtun-Ch'ich' was created by someone with the image of the perfect world."

If the builders of Nixtun-Ch'ich' really did set out to construct a city that embodied their creation myth, that would also shore up the growing consensus among archaeologists that the earliest leaders in the Maya area drew their authority from religion, rather than economic wealth or prowess in battle. In the Middle Preclassic, "you can't separate political power from religious power," says Reese-Taylor. But debate still rages about how much sway those emerging rulers actually had. "We

shouldn't give those leaders too much credit," says Inomata, who conceives of the earliest Maya cities as bottom-up, collective efforts, not as plans dictated from the top down.

Pugh and Rice, on the other hand, are convinced that the grid at Nixtun-Ch'ich' had to have been the result of central planning carried out by one ruler or a handful. "This guy could explain the origins of the world," Rice says. "So everybody thought he was pretty spectacular, and they cooperated



This ceramic brick from the ancient Maya city of Comalcalco depicts a crocodile, a sacred animal whose form may have inspired the layout of the urban grid at Nixtun-Ch'ich'.

when he said, 'Let's build this.'" Brown points out that the construction of Nixtun-Ch'ich' itself might have been a way for these new leaders to consolidate their power. "They were trying to make the site symbolically represent the world," she says. "And what a powerful statement for those nascent, emerging rulers to make, to oversee the construction of that." The feasts around the cenote also likely reinforced the new leaders' position at the top of an emerging social hierarchy, she says, by positioning them as people powerful enough to be generous while also obliging attendees to support them with reciprocal gifts or communal labor.

Reese-Taylor agrees Nixtun-Ch'ich' likely represents an early example of central planning, implying the presence of an elite leader or a small group of them. Other early Maya cities likely came together in different ways, including as smaller villages collectively deciding to join together. "In this early period there was more than one idea of what a city could be," she says. Nixtun-Ch'ich' may be an outlier in the Maya lowlands, in terms of its grid layout and perhaps its possible early centralized leadership. But its very uniqueness underscores the explosion of creative energy and social experimentation during the Middle Preclassic. "The grid is just one aspect of a very innovative period of life in the area," Freidel says.

While the gridded layout of Nixtun-Ch'ich' didn't catch on in the Maya lowlands, it remained a powerful force in the city that invented it. Most Middle Preclassic Maya cities are now covered by grander Classic period constructions, obscuring their original layouts. Although Nixtun-Ch'ich' was occupied throughout the Classic period, its later residents never built over the grid or changed the site layout. Even the Spanish, who built a mission on the site in 1702, left the grid intact. That's how Pugh found himself unknowingly walking its streets more than 2,500 years after it was built, intuitively following the rules of this sacred landscape long before he consciously understood its meaning. ■

Lizzie Wade is a journalist based in Mexico City.



The dramatic view from Westminster Abbey's triforium, located 70 feet above the nave, has been called the best in Europe. The rarely visited space has recently yielded thousands of artifacts, offering a fresh perspective on the Abbey's long history.

Westminster Abbey's Hidden History

Far above the royal pomp and circumstance, archaeologists unexpectedly discover seven centuries of England's past

by JASON URBANUS



WESTMINSTER ABBEY IS one of the most famous buildings in Christendom. It has stood witness to signal events, serving as the site of English coronations for almost one thousand years, hosting dozens of royal weddings and funerals, and containing the tombs of monarchs, poets, scientists, and countless other notable Britons. Recently, it was the site of an unusual archaeological dig. The excavations did not take place outside on the Abbey's

More than 30,000 fragments of stained glass were recovered during the excavations. They likely accumulated as the Abbey's windows were periodically broken over the centuries. Religious figures, geometric designs, and mythological beasts are featured among the designs.

grounds, as might be expected, but instead in the triforium—an arcaded gallery some 70 feet above the nave, or central aisle.

The 20th-century poet John Betjeman described the triforium as offering the “best view” in Europe. Today, many people have, without realizing it, experienced that vantage



Wooden floorboards were first installed in the triforium by architect Christopher Wren in the early 18th century, 450 years after it was constructed. Archaeologists filled thousands of trash bags with material collected from beneath the floor.

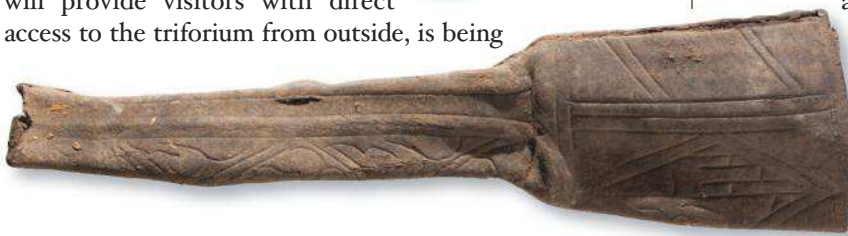
point on television. The cameras that broadcast important Abbey ceremonies are often stationed in the triforium to provide a bird's-eye view of the events. The gallery itself has not been open to the public since it was built in the thirteenth century, but that is set to change. Abbey authorities have decided to transform it into a museum space, soon to be known as the Queen's Diamond Jubilee Galleries. Since the triforium is currently only accessible via a narrow wooden spiral staircase, a new tower, which will provide visitors with direct access to the triforium from outside, is being



Among the personal artifacts retrieved by archaeologists were a 15th-century patten overshoe (left), meant to be worn to protect one's shoes from mud and dirt, and (below) a medieval leather knife scabbard.

constructed. This is the first major architectural addition to the Abbey in 350 years.

In the lead-up to these changes, church officials have faced the daunting task of both renovating the space and removing material that had collected there for 700 years. "The triforium gallery has never had a meaningful use and it served as an attic," says archaeologist and Westminster Abbey consultant Warwick Rodwell. But what an attic it is! Over the centuries, it has gradually become filled with broken, precious objets d'art, architectural adornments, and even long-forgotten and displaced stone monuments. "It was the place where you stored all the things you didn't know what to do with, including old



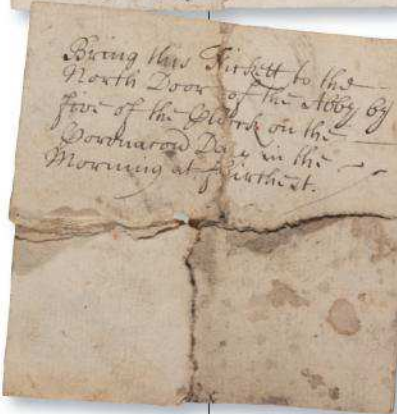
furniture, books and papers, unwanted stained glass windows, and all sorts of odds and ends," he says.

According to Rodwell, the triforium was not always intended to be used for storage. When it was first designed and built in the 1250s under King Henry III, it was likely conceived as an area that would contain upper-floor chapels and other usable spaces. But, because of changing fashions, that plan never came to fruition. "Chapels [above the ground level] were popular in the eleventh and twelfth centuries, but their popularity waned in the mid-thirteenth," Rodwell says. "They probably intended to lay a floor of glazed and patterned tiles, but that did not happen either."

Because no flooring was installed for a few centuries, the tops of the protruding stone vaults from the story below remained exposed, and the crowns and recesses created an undulating, uneven surface in the triforium. "The ups and downs of the vaults would have looked like lunar craters," Rodwell remarks. In some places, these pocketed recesses are as much as five feet deep, and for centuries they made perfect receptacles for trash and other debris left behind by the triforium's occasional visitors.

During the eighteenth century, the famous architect Christopher Wren finally installed a wooden floor, which inadvertently served to seal in and preserve the material that had already collected in the triforium's nooks and crannies. The floor also failed to prevent new material from accumulating. Small objects often fell through the floorboards and added to the hidden artifact assemblage below.

During the current campaign of renovations, when the floorboards were lifted, Rodwell encountered centuries-old historical debris. Since then, he has overseen the archaeological excavation of the triforium. "When I first crawled around the vaults, under the timber floors, I realized that there was considerable archaeological potential in the 'rubbish,'" he says. "Consequently, I planned the operation of cleaning out the vault pockets in an orderly archaeological fashion. This is the first time a professional archaeological investigation of the contents of vault pockets has been carried out in the UK." Overall, more than 4,000 trash bags containing material spanning seven centuries were filled, removed, and their contents sorted.



Among the many rare items found are (top to bottom) an invitation (both sides shown) to the 1702 coronation of Queen Anne, a rare 17th-century playing card, and a Virginian tobacco wrapper dating to 1685.

A brand-new perspective on the use of the triforium over time, and of the people who occasionally visited this difficult-to-access level, is now the result. Among the objects discovered are animal bones—leftover from meals—sherds of pottery, fragments of glass vessels, tobacco wrappers, newspapers, pages from books, a leather knife scabbard, and even shoes. A rare seventeenth-century playing card and four handwritten invitations to the coronation of Queen Anne, likely left behind by spectators who witnessed the 1702 ceremony, were also salvaged.

More than 30,000 fragments of stained glass, probably swept aside after windows were broken or blown out periodically during the centuries, were recovered. Some pieces have been identified as belonging to the original windows installed in the thirteenth century. They feature various designs, geometrical shapes, medieval faces, and mythological creatures. The Abbey's glass collection has been brought to the stained glass studio at Canterbury Cathedral where experts are working to reassemble the overwhelming glass puzzle and are even creating new windows from what has been found. "In all, it is a remarkable haul of material," Rodwell says, "with much still to be studied."

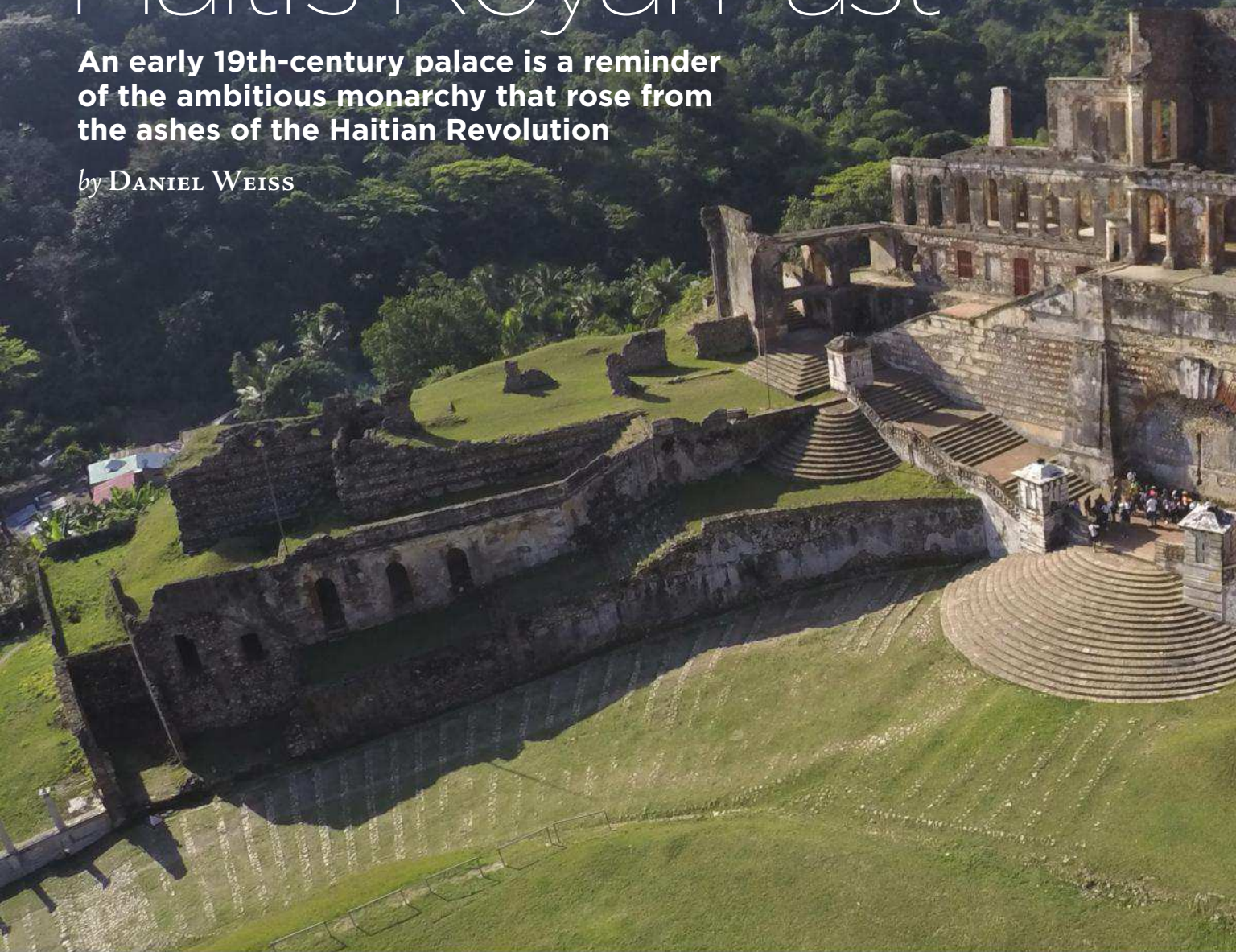
Many of England's great churches underwent restoration campaigns during the nineteenth and twentieth centuries, when spaces similar to Westminster's triforium were emptied. Unfortunately, records were not kept and valuable information was likely tossed away as trash and forever lost. "This material is not just rubbish, but a time slice through more than 700 years of the Abbey's history," Rodwell says. As many people can attest, the looming obligation to clean a cluttered attic is usually met with dread, but Westminster Abbey's triforium renovation has proved both exciting and rewarding, truly lending credence to the old adage "One man's trash is another man's treasure." ■

Jason Urbanus is a contributing editor at *ARCHAEOLOGY*.

Haiti's Royal Past

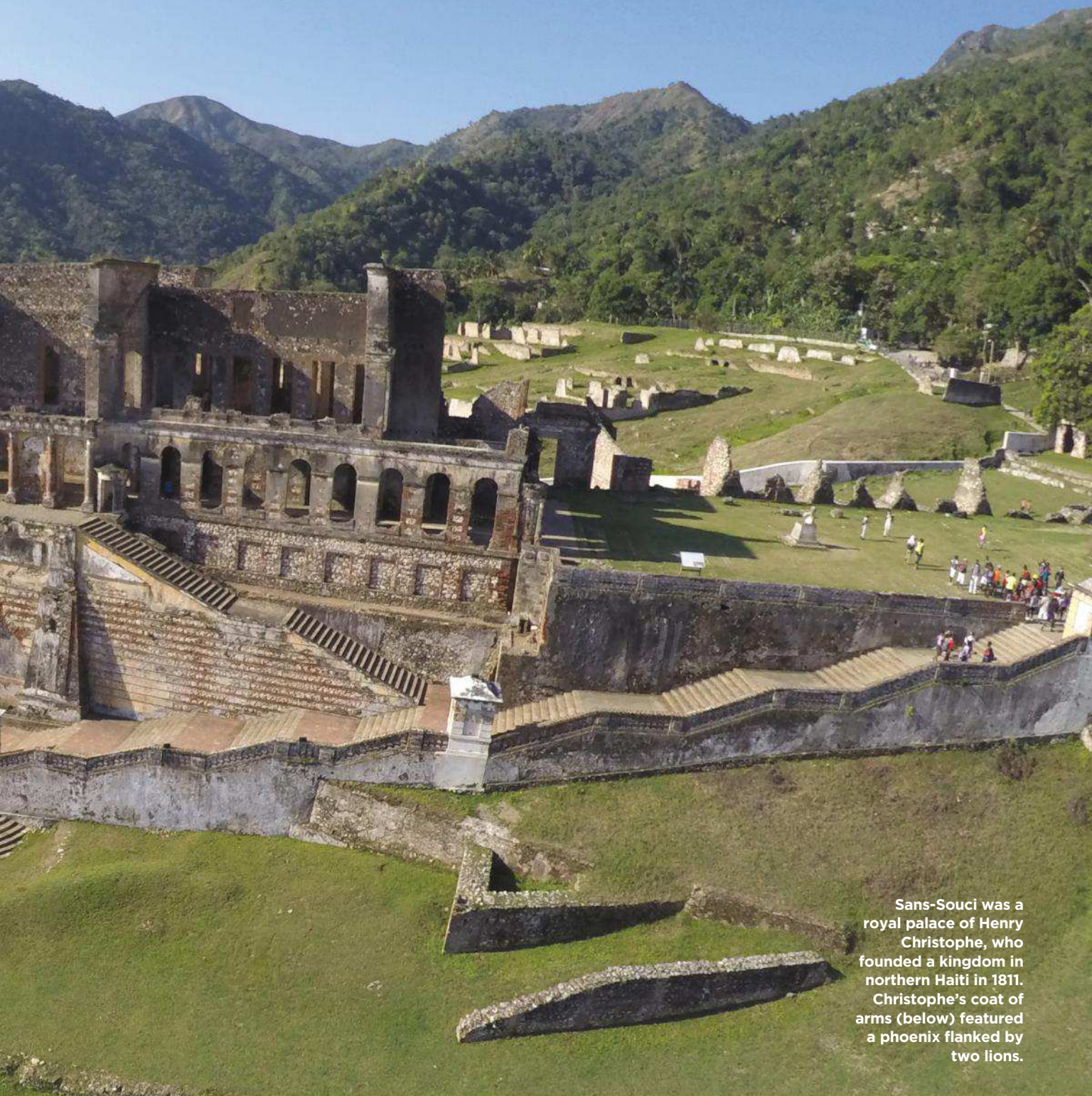
An early 19th-century palace is a reminder of the ambitious monarchy that rose from the ashes of the Haitian Revolution

by DANIEL WEISS



TWO MONUMENTAL STRUCTURES in Haiti—a palace called Sans-Souci and an enormous fort called the Citadel—mark a dramatic turning point in the history of the island nation once ruled by France. In the early nineteenth century, Henry Christophe, a former general who had helped lead Haiti to victory over France in a long and brutal revolution, formed a kingdom in the coun-

try's north. In a move both prideful and pragmatic, he took the title of King Henry I and established a hereditary monarchy, with newly minted counts, dukes, and barons assigned to oversee his realm. His personal coat of arms featured a phoenix and the motto *Je renais de mes cendres*, or “I rise from my ashes.” As part of a mission to establish Haiti as a center of civilization and a major player on the world stage, Christophe embarked on a wildly ambitious building program. “Winning



Sans-Souci was a royal palace of Henry Christophe, who founded a kingdom in northern Haiti in 1811. Christophe's coat of arms (below) featured a phoenix flanked by two lions.

Haiti's freedom involved massive destruction," says historian Laurent Dubois of Duke University, "and now Christophe was trying to build something glorious in the midst of it."

Sans-Souci was erected in the village of Milot, 10 miles south of the northern port city of Le Cap. Today, portions of the palace lie in ruins, reduced to rubble by an 1842 earthquake. It is still clear, how-



ever, why it was known in its time as the Versailles of the Caribbean, where the Haitian king presided over elaborate court protocol, opulent dinners and dances, and popular festivals. It consisted of a three-story main building that stood some 80 feet tall and measured 170 by 80 feet, along with a number of other structures surrounding the Cour Caimitier, a large courtyard that hosted military

reviews, plays, and other outdoor gatherings.

Designing and building the palace would have been a tremendous undertaking at any time, but for a newly independent nation of former slaves, it was a truly remarkable feat. Hills were leveled and ravines were filled in to prepare the grounds. However, there was still a significant elevation difference between the front and back of the main building, so the front was fitted with a grand double staircase leading to the entrance. At the top of the stairs, visitors encountered a fountain topped with a gilded sun bearing the motto *Je vois tout, et tout voit par moi dans l'univers* ("I see everything, and everything in the universe is seen by me"). Inside, there were reportedly mahogany floors, flowing silk curtains, and paintings turned out by the kingdom's Royal Academy of the Arts.

The Citadel, perched atop a 3,000-foot mountain that looms above the palace, was also a formidable construction project. It covered more than 160,000 square feet, could house 5,000 soldiers in a siege, and held a year's worth of supplies. Its walls measured at least 16 feet thick and were made up in part of bricks and stones repurposed from houses on French plantations, where many of those who built it had been enslaved. It was armed with hundreds of cannons captured during the revolution.

It has been two centuries since Christophe's kingdom was in ascendance, and today it is a largely forgotten chapter in the history of the Americas. It was a time when Haiti's very right to exist was called into question by much of the world, even as optimism regarding its potential reached great heights. In the period following the world's first and only successful slave revolt, Christophe charted a course that in many ways perpetuated the injustices of the French colonial system while at the same time attempting to inspire Haiti's people with the kingdom's achievements. Most prominent among these were his building projects, yet much mystery surrounds the circumstances of their construction, particularly Sans-Souci.



Christophe, who was a general in the Haitian Revolution, aimed to boost his kingdom's profile abroad and inspire its people at home through his building projects.

Who designed it? When was it built? Now, excavations at the site, along with new architectural research, are starting to provide some answers.



The Citadel, a massive mountaintop fort built under Christophe's supervision, was heavily armed and held enough supplies to sustain 5,000 soldiers through a yearlong siege.

SAINTE-DOMINGUE, as Haiti was known under French rule, was the most profitable colony in the world in the eighteenth century. It was also among the cruelest. It grew rich off plentiful crops of sugar and coffee, along with other valuable exports, all produced by enslaved people who were forced to work so hard that many died, only to be replaced with new slaves arriving regularly from Africa. In 1791, enslaved people on sugar plantations in the colony's north rebelled, sparking the Haitian Revolution. More than a decade of intense fighting and shifting alliances followed, ending in the defeat of the French. On January 1, 1804, Haiti declared independence, becoming just the second colony in the world, after the United States, to do so. Several years



The front of Sans-Souci features a grand double staircase whose design was drawn from an Italian Renaissance model, possibly the Villa Farnese in Caprarola.

later, the young nation was riven by civil war, and Christophe formed the State of Haiti in the north, which he initially ruled as president, while the Republic of Haiti controlled the south.

Christophe encountered steep obstacles. “The clearest problem the Haitian state faces is legitimizing itself,” says Dubois. “How are they going to forcefully establish their claim to sovereignty when the decks are very much arrayed against them? They are a nation founded on the overthrow of slavery, and basically every power they are confronting is a slaveholding society.” France refused to recognize Haiti’s independence and threatened to invade at any time. Wary of endorsing the fruits of a slave revolt, no other nation extended diplomatic recognition either. Several were happy to trade with Haiti, though, and a steady stream of merchant ships from Great Britain and, to a lesser extent, the United States, called at its ports and filled its coffers.

In 1811, Christophe declared the Haitian state a kingdom in an attempt to boost its fortunes. As king, Christophe aimed to present Haiti and himself as peers to European nations and their monarchs. At the time, monarchy was very much the primary form of government among nation-states. France had been a republic for more than a decade after its revolution, but had since become an empire under Napoleon, and the United States was a rare experiment in representative democracy whose future success was far from assured. In particular, Christophe hoped that as Haiti’s sovereign he could form an alliance with Great Britain, the dominant naval power of the time and a fellow enemy of the French. At his coronation, Christophe toasted “my dear brother” King George III, calling on him to “oppose an invincible obstacle to the unbridled ambition of Napoleon and remain always the constant friend of Hayti.” Christophe also ordered the accoutrements of a royal household in the form of a

range of luxury goods from Britain—royal carriages, crown jewels, sumptuous dresses for the queen and princesses, fancy dinner services from the Spode pottery works. According to English author Paul Clammer, who is writing a biography of Christophe, the king ensured that news of these purchases appeared in British newspapers. “The point was,” says Clammer, “this is free black labor producing the means to buy this incredible wealth.”

How free laboring Haitians actually were is questionable. Many formerly enslaved people resisted returning to the backbreaking toil they had fought a revolution to liberate themselves from. Nonetheless, Christophe forced these workers back onto the sugar plantations, which provided the north’s major export. Those who attempted to leave were tracked down by the Royal Dahomets, a military police force named after the legendary West African kingdom of Dahomey. Plantation workers are also believed to have been drafted to serve as laborers on major construction projects, including the Citadel and Sans-Souci.

Christophe and his inner circle were acutely aware of the worldwide attention focused on their kingdom—much of it blatantly racist and actively rooting for its failure. Sans-Souci was a rejoinder to those who doubted Haiti’s capabilities. Indeed, Christophe’s personal secretary and the kingdom’s most prolific champion, the Baron de Vastey, wrote of Sans-Souci and the adjacent Chapel Royal: “These two structures, erected by descendants of Africans, show that we have not lost the architectural taste and genius of our ancestors who covered Ethiopia, Egypt, Carthage, and old Spain with their superb monuments.”

HOW SANS-SOUCI WAS constructed has been a matter of debate and confusion over the past two centuries. Its chief architect is unknown, and a variety of European palaces have been cited as models for it—from Frederick the Great’s Sanssouci palace in Potsdam, after which it may have been named, to Versailles, the Louvre, and the Schönbrunn Palace in Vienna. Rather than try to identify which marquee European palace Sans-Souci is copying, says Gauvin Bailey, an architectural historian at Queen’s University in Canada who studies French colonial architecture in the Atlantic, we should instead recognize how precise and innovative it is.

“It’s more sophisticated in terms of its structure and design than anything the French built in the region,” he says, noting that it draws inspiration from a range of traditions to produce a unified effect. The dominant style of Sans-Souci, according to Bailey, is monumental Baroque classicism typical of the early reign of King Louis XV. In particular, he believes it draws on the early eighteenth-century Malgrange



Among the items that Christophe ordered from Britain were plates from the Spode pottery works decorated with a version of his coat of arms.



Excavations at Sans-Souci (left) have uncovered an earlier foundation for a building that was torn down before construction of the palace. In a layer below this foundation, archaeologists found a type of English pottery (right) that was only made starting in 1805.

Palace in northeastern France, which was never finished, but whose plans were widely circulated. “I think they went to that pattern,” says Bailey, “because they were trying to build something palatial that would impress their enemies, the French, but also impress their friends, who were for the most part monarchies as well.”

The double staircase at the front of Sans-Souci’s main building, on the other hand, was drawn from an Italian Renaissance model, perhaps the Villa Farnese at Caprarola in central Italy. “They grafted this really noble and complex multi-flight staircase onto this French palace,” says Bailey. However, he believes there may have been an additional inspiration for Sans-Souci’s staircase: the coastal slave castles of West Africa, where many of those who built the palace had been held, often for months, before being shipped across the Atlantic to Haiti. “Many of these slave castles have a dramatic paired staircase in the courtyard, with the governor’s residence at the top,” says Bailey. “These staircases were a symbol of power, so including them in Sans-Souci was a way of getting revenge on the people who had enslaved you.” Finally, Bailey points out that many of the palace’s walls were constructed using ancient Roman techniques in which

either rough stones were set irregularly in mortar or layers of brick were alternated with rubble—techniques that were later hidden under ochre-colored plaster.

“I think they were aware that these methods are redolent of imperial Rome,” he says, “and they wanted to do something on that imperial level to raise the prestige of the building.”

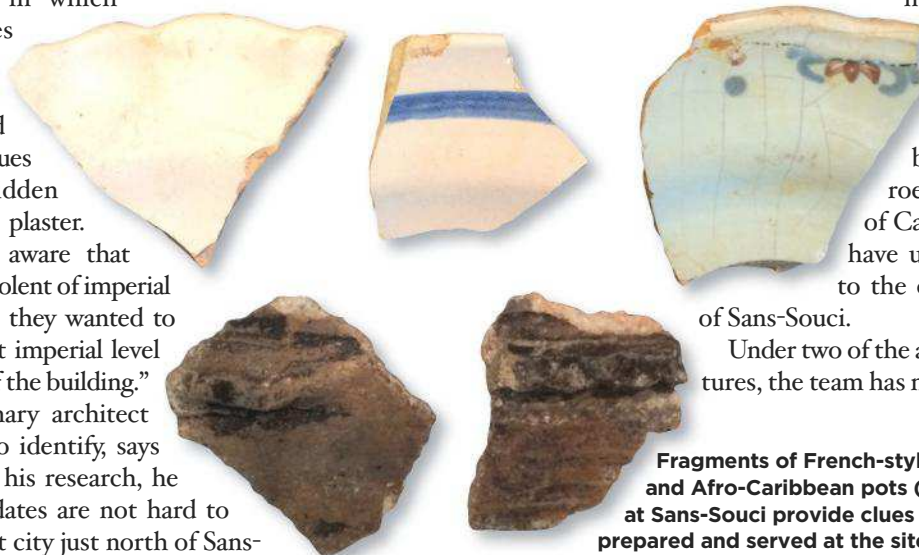
The palace’s primary architect may be impossible to identify, says Bailey. But based on his research, he believes likely candidates are not hard to find. Le Cap, the port city just north of Sans-

Souci, was a bastion of grand architecture during colonial times, when it was known as the “Paris of the Antilles.” As a result, it was home to a flourishing community of black people who had been free under French rule, as well as some who had been enslaved, who had received training in architecture, masonry, joinery, and carpentry. These highly skilled artisans were likely behind the design and construction of Sans-Souci. However, Bailey believes that Christophe deserves credit as the palace’s coauthor. “He was very much micromanaging the project,” says Bailey. “He wanted the building to look a particular way, and he wanted it to symbolize particular things.”

EXACTLY WHEN CHRISTOPHE set his sights on building Sans-Souci is unknown. There has also been speculation as to whether he first tried his hand at a more modest structure at the same location before erecting the grand palace for which he is known. According to a publication by de Vastey, Sans-Souci was completed in 1813, and it has been assumed that Christophe started work on it after becoming king in 1811. However, an 1809 Haitian newspaper article announced that Christophe was moving to his new palace at Sans-Souci. This

may have been a reference to an earlier structure on the same site. Ongoing excavations led by Cameron Monroe of the University of California, Santa Cruz, have uncovered new clues to the construction history of Sans-Souci.

Under two of the ancillary palace structures, the team has now discovered four-



Fragments of French-style plates (top row) and Afro-Caribbean pots (bottom row) found at Sans-Souci provide clues to how food was prepared and served at the site.

dations for earlier buildings that are in alignment with each other but off alignment with later remains. In both cases, their foundations were built on trash heaps that included a type of English pearlware pottery with scalloped edges only produced starting in 1805. Given the time it would have taken for this pottery to make its way to Haiti and then into the trash, Monroe believes it is likely that these deeper structures date to the early years of Christophe's reign as president, which began in 1807. It is so far unclear what the nature of these buildings was, but Monroe suspects that they were significantly smaller and less ambitious than the palace complex that replaced them. "My presumption is that it's Christophe's first attempt to build a presidential estate, most likely using relatively quick-to-build French colonial-style architecture," he says.

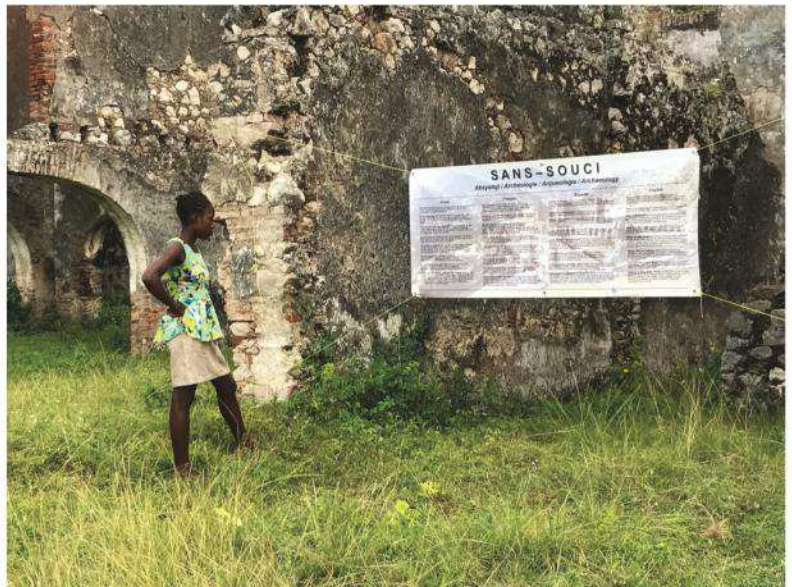
What is clear, as well, is that Christophe's building activity on the site was frenetic. Based on the evidence of the pearlware pottery, he must have built one set of buildings some time after 1805, then tore them down and replaced them with the palace structures, which were apparently completed by 1813. In addition, one of the trash heaps excavated by archaeologists contained a jumble of construction materials, indicating the presence of an even earlier building dating to the French colonial period or Christophe's earliest years at the site. "It's amazing how much change is going on here in a brief amount of time," says Monroe. "I've excavated on Roman sites in the eastern Mediterranean, and this feels a lot like a Roman site, except that on those, the stratigraphy is hundreds of years old, and on this one, it's two decades at the most."

Ceramics and animal bones found by the team in the trash heaps beneath the earlier structures have provided important clues to what life was like at the site early in Christophe's reign. The remains suggest that a wide range of land and sea animals were chopped up and stewed together in handmade Afro-Caribbean pots and then served on French-style plates. According to Monroe, evidence that people on the site more than 200 years ago were consuming "African diaspora-style stews" strikes a chord with local people who visit the excavation. "When we're pulling up food remains and we describe what the meals were like at this place," says Monroe, "people from the community say, 'Well, that's exactly like something I had last week.'" Further down beneath one of the trash heaps, archaeologists found a much earlier layer that included pieces of an indigenous style of pottery called *meillacoides*, evidence that use of the site dates back at least to the fifteenth or sixteenth century, when the first colonialists arrived. "In a weird kind of way," says Monroe, "this place encapsulates the entire history of Haiti, all the way back to the contact era, and probably well before."

OVER TIME, CHRISTOPHE found it increasingly difficult to hold his kingdom together, and many of his subjects came to consider him a tyrant. Plantation workers chafed at the system's inequality, while nobles and

military leaders felt that Christophe's insistence on control thwarted their ambitions. In August 1820, the king suffered a stroke while attending mass in the town of Limonade and was brought back to Sans-Souci, much diminished. Christophe's weakness only emboldened the growing resistance. In early October, with rebels advancing on the palace, Christophe shot himself in the heart. He would be buried in the Citadel. Forces from the Republic in the south took over Christophe's territory, and Sans-Souci was thoroughly looted within days.

In 1842, a massive earthquake struck, felling sections of the palace complex. Its remains have been neglected ever since, emblematic, to some, of the folly of Christophe's experiment in monarchy. Clammer believes that Christophe's regime had its merits, but sees the monarch's overthrow as the final act of the Haitian Revolution in that it marked the end of the colonial-style export economy based on coerced labor. "The



Haitian visitors to Sans-Souci take pride in the palace almost two centuries after the fall of Christophe's kingdom, and are eager to learn of archaeologists' findings there.

revolution was started by slaves in the sugar plantations saying, 'No, we're not having this,'" Clammer says. "After Christophe died, that was gone. You never saw that big plantation economy again."

However, Haiti scholar Doris Garraway of Northwestern University points out that the monumental remains of Christophe's great building projects are important symbols for many Haitians to this day. "Sans-Souci and the Citadel represent a defiance and refusal to submit that connect to the significance Haitians still find in their survival as an independent, sovereign nation," she says. "Christophe had this idea of rehabilitating, regenerating, and elevating the Haitian people in the era of freedom from slavery. Given the pride Haitians feel today about these monuments, it is clear that his project succeeded in at least one respect, that of instilling in the people an implacable sense of dignity and equality with the rest of the world." ■

Daniel Weiss is senior editor at *ARCHAEOLOGY*.

PARADISE CHANGED

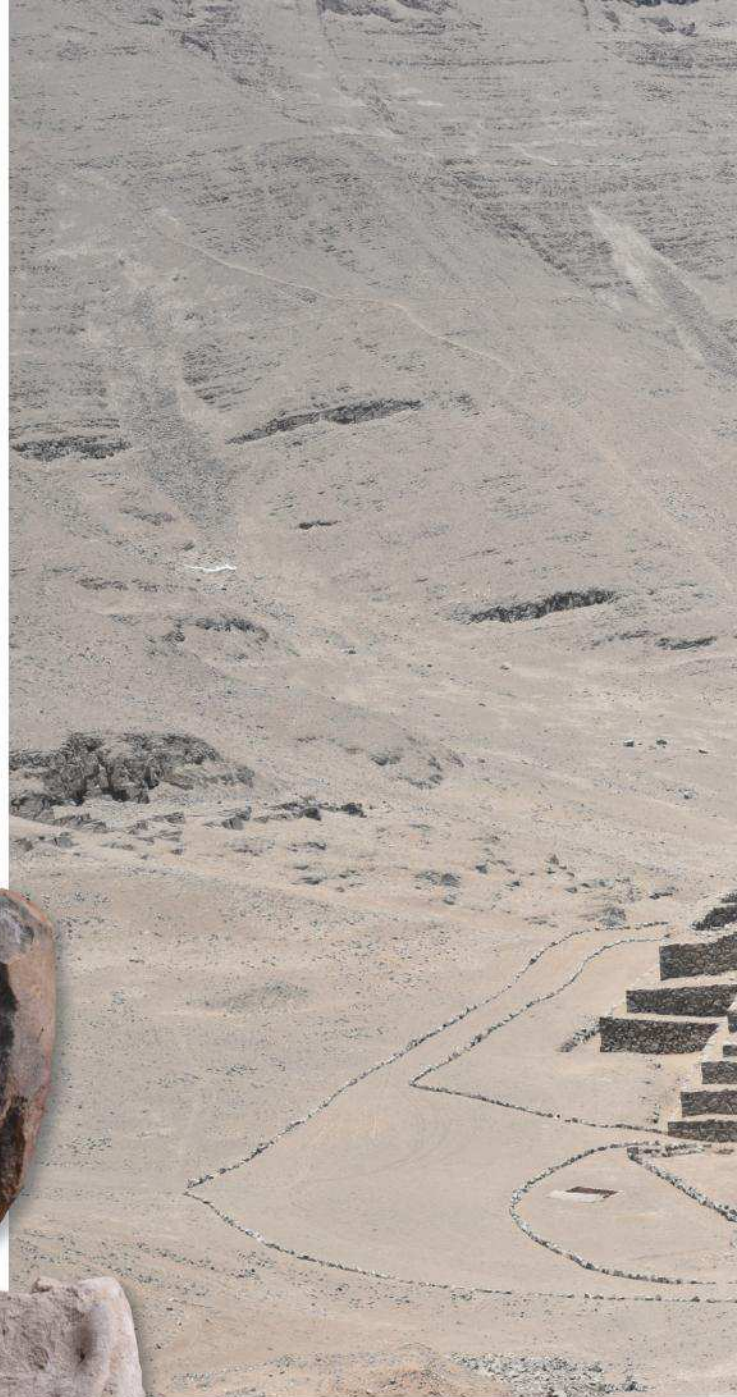
An ancient Peruvian city stood at the crossroads of technologies

by ROGER ATWOOD

SPRAWLING OVER 100 acres on Lima's dusty northern outskirts, El Paraíso's eight monumental structures were built with tons of quarried stone 4,000 years ago. French archaeologist Frédéric Engel gave the site its current name, "Paradise," in the 1950s—seemingly ironic for a place so arid and inhospitable today. But what Engel and later excavators found so remarkable about El Paraíso is the way it witnessed the transition of some of ancient Peru's most important cultural trends. It was the first major site to be laid out in a U shape, arms open toward the Andes, where the sun rose and where the Chillón River, its source of fresh water, originated. Earlier settlements had faced the ocean. El Paraíso's innovative plan would dominate urban design in Peru for centuries afterward.

It is also one of the first places for which there is evidence of a shift from fish and shellfish to agricultural products as dietary staples. During recent excavations at El Paraíso, site director Joaquín Narváez of Peru's Ministry of Culture has found pits full of corn, peanuts, cotton, and beans mixed with mollusk shells and fish bones. Judging from their garbage, says Narváez, the people of El Paraíso grew abundant quantities of vegetables but continued to get their animal protein from seafood, not land animals. "It took thousands of people to build this complex," says Narváez. "For that you need order, and you need people to accept that system. You need government and a steady supply of food."

NEW STYLES OF architecture and a change to an agricultural diet would have been innovation enough, but within a few centuries El Paraíso's people participated in the advent of another milestone—ceramics. Narváez has uncovered unfired clay figurines, with their distinctive pale color and crumbly texture, 50 feet from fully fired pottery, which is red and hard. "You can see them experimenting, figuring it out," he says. "They were making both at the same time." El Paraíso thrived at the end of the Late Preceramic period (2500–1800 B.C.), and according to Narváez, radiocarbon tests on straw bags associated with the ceramics date them to about 1800 B.C. When pottery technol-



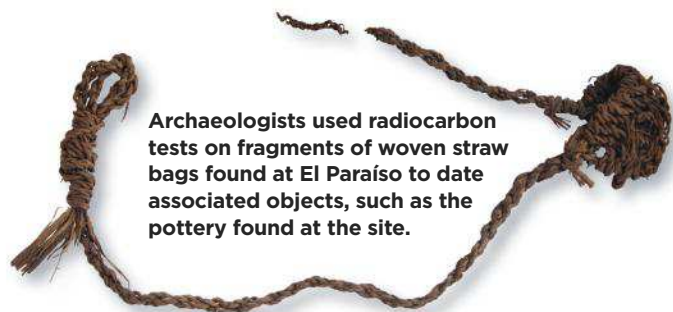
A chunk of fired pottery (left, above) has a reddish hue, in contrast to the grayish unfired piece (left), which archaeologist Joaquín Narváez believes depicts a woman, her left arm draped across her. Both date from about 1800 B.C., near the end of El Paraíso's short life.

ogy first arrived at the site, Narváez believes it was used to make devotional objects, including a now-broken figurine that seems to depict a woman. Only in later centuries was it used for the pots and jars that were nothing short of life-changing in that they allowed people to stop using perishable gourds and baskets to carry, cook, and store food.

Jeffrey Quilter of Harvard University also found ceramics at El Paraíso when he dug there in the 1980s, but, he says, they



The ruins of El Paraíso, much of which has been reconstructed, stand outside Lima. There, archaeologists have found the remains of eight monumental structures, making it one of the largest Preceramic sites in the Americas.



Archaeologists used radiocarbon tests on fragments of woven straw bags found at El Paraíso to date associated objects, such as the pottery found at the site.

appeared to date from much later or to have been brought there from other sites. Whatever the case, Quilter says El Paraíso was “a very late expression of the Late Preceramic period. Ceramics were already in use elsewhere.” The site

was something of a holdout at a time when new technologies were spreading fast. “There definitely were new ways of doing things,” says Quilter. For reasons that are still being pieced together, “the people of the region were changing their practices to include ceramics and loom weaving,” says Quilter. It is clear, he explains, that new technologies began driving changes to the economy.

As of yet, Narváez hasn’t found any kilns, so he can’t say for certain to what degree the people of El Paraíso embraced ceramic making. After 1800 B.C., the site was abandoned, having been intensively inhabited for only 300 or 400 years. It was never resettled, and the cause for the abandonment remains unknown. ■

Roger Atwood is a contributing editor at *ARCHAEOLOGY*.

An Etruscan Family

Surprising evidence of daily life and of one of Rome's greatest conflicts is

BEFORE THE ROMANS CAME to dominate the Italian Peninsula, another powerful civilization once held sway in central Italy—the Etruscans. Though a fair amount is known about their wealthy, cosmopolitan culture, nearly all that knowledge comes from the hundreds of tombs that have been found in the land of Etruria, between the Tiber and Arno Rivers, west and south of the Apennine Mountains. These burial chambers,

which are often brightly painted and filled with costly grave goods, have provided most of the evidence scholars have used to reconstruct Etruscan customs, cultural connections, and technological achievements. But to this day, their language, despite being written in an alphabet probably related to one of the early Greek alphabets, remains undeciphered, and relatively few Etruscan domestic properties have been identified. Thus many questions about their daily life remain.



Story

Text and photos by MARCO MEROLA

found in a wealthy residence in Tuscany

Over the past several years in the modern village of Vetulonia (the ancient Etruscan settlement of Vetluna), 10 miles northwest of Grosseto, archaeologists from the University of Perugia and the local museum have been excavating a large house. The team's leader, archaeologist Simona Rafanelli, believes it belonged to a powerful Etruscan family for at least 200 years, until the first quarter of the first century B.C. "This was a rich villa measuring more than 4,300 square feet, with

10 main rooms in addition to other back rooms and servants' quarters," says Rafanelli. From at least the third century B.C. on, she explains, was a prosperous time for Vetluna, which enjoyed good relations and a peaceful coexistence with Rome. "This can be seen not only in this house, which we assume was built in this flourishing period," Rafanelli says, "but also in the expansion of the settlement, as well as in the construction of other rich houses and new decoration of sacred buildings."



Artifacts belonging to an Etruscan family that resided in the "House of the Dolia" for generations include (left to right) a 2nd-century B.C. bronze statuette depicting a man in prayer, a 3rd- or 2nd-century B.C. hook found still hanging on a wall, a 4th-century B.C. bronze horse that was part of a candelabra, and a 3rd- or 2nd-century B.C. appliqué from a wooden box.

FOR RAFANELLI AND OTHER scholars, the excavation of this house has served as a treatise of sorts on Etruscan architecture since relatively little is known about how they built their residences. Rafanelli named the property the “House of the Dolia” after the first room she found, which was filled with the large ceramic vessels called *dolia* used to store olive oil and other agricultural products. The team has uncovered walls five feet high, rooms paved with *opus signinum* (lime mixed with pottery fragments), ceilings made of pressed clay, tiles, large iron nails used to secure wooden beams, painted wall decorations, and even well-preserved Etruscan bricks, which ordinarily do not survive.

A room identified as a *triclinium*, a kind

The remains of a ceramic figurine that was part of the family’s personal possessions depicts a mythological figure, possibly a maenad, one of the followers of the god Dionysus.



of living/dining room, is completely covered with frescoes, colorful fragments of which were found lying on the ground. Another room nearby was a *tablinum*, a sort of office where the head of the household received his business clients. Next to this there was another storeroom with a large jar inside. Here archaeologists also found a collection of small, high-quality bronze statues that had been buried inside a wooden box and remained hidden for more than 2,000 years. There

were three male figures: two depicting men in prayer, and another, a *haruspex*, or priest, trained in the art of divination. This grouping is related to the cult of the protection of the household. In addition, a small bronze horse figurine was uncovered. Taken together, these finds begin to tell the House of the Dolia’s other, far less mundane story.

ONE OF THE REASONS the house is so well preserved is that at some point in its history—archaeologists think they know when, and also why—it suffered a catastrophic fire. While the



A room of the House of the Dolia showing, at the back, an eponymous ceramic *dolium*, or storage vessel, as well as artifacts including (center) an amphora and (right) the base of a statue.



Archaeologists discovered iron nails that had been used to fasten wooden beams to the House of the Dolia's roof.

executed thousands of Marian supporters and declared himself dictator.

According to Rafanelli, the House of the Dolia got caught up in this crucial struggle for Rome's future. After the civil war ended, Vetluna, along with many other Etruscan cities, remained loyal to Marius' much-diminished party. As a reprisal for this treachery, the victorious Sulla ordered raids against all enemy cities. Eventually, his soldiers reached Vetluna and destroyed it, the evidence

fire destroyed some of the property's more perishable items, it also caused the house to collapse. This protected its stone foundations, some of its architectural decoration and fittings, and its bricks, which were baked by the fire. Rafanelli and her team believe that the fire occurred in the first quarter of the first century B.C. and was tied to events following a yearlong civil war (83–82 B.C.) between the forces of the Roman generals Lucius Cornelius Sulla and Gaius Marius the Younger, which was to determine the fate of the Republic in the ensuing years.

In the years before the conflict, Sulla and Gaius Marius (the Younger's father, also a powerful and distinguished general) had clashed over the fate of the Italian Peninsula, and even of the city of Rome itself. They had already engaged in a civil war some five years earlier, which had resulted in Sulla's victory and Marius' expulsion from Italy to Africa, where he plotted his return. While Sulla had gone back to Asia Minor to continue his fight against the Pontic king Mithradates, Marius and his son returned to Rome, and the so-called Marians wrested control from Sulla's supporters. They killed up to 100 Roman nobles, many of whose heads they displayed in the Forum. But Marius died in 86 B.C., and his son could not maintain control in the face of Sulla's superior forces. Sulla entered Rome as a victorious general,

of which can still be seen in the burned remains of the house and under the floor, where its owners may have tried to hide their precious objects.

One particular characteristic helps explain why a number of significant artifacts have been found at the House of the Dolia: Before its destruction, Vetluna had been a thriving commercial city, full of skilled metalsmiths. Thanks to its excellent relationship with Rome, Vetluna had enjoyed the right

to mint coins. Many local coins have been found in Rafanelli's excavations, both in the house and in the area around it, most commonly a type of bronze *sestertius* decorated with a trident between two upside-down dolphins. In the house, the team discovered a rare Roman coin, a silver *denarius* Rafanelli says was minted by Lucius Thorius Balbus, Triumvir Monetalis—the official in charge of overseeing the minting of coins. Balbus, a known henchman of Sulla, hailed from the town of Lanuvium, 20 miles southeast of Rome. He was killed in Spain by a loyal follower of Marius. The denarius, which depicts the head of the goddess Juno Sospita (who was worshipped in Lanuvium) wearing a goatskin hood, perhaps arrived in Vetluna in the pocket of one of Sulla's soldiers. "Such a coin is dramatically important to give a certain date to the end of the site," says Rafanelli. "The acts in retaliation carried out around 80 B.C. by Sulla's troops against Etruscan cities are well reported in historical sources, but here we have material evidence of what actually happened here at this moment." ■



A silver *denarius* (top) depicts Juno Sospita, a goddess venerated in Lanuvium, the hometown of Lucius Thorius Balbus, ally of the general Sulla and the Roman official in charge of minting coins. Its reverse (bottom) shows a charging bull and names Balbus.

Marco Merola is a journalist in Rome.

ANCIENT ATHENS' OTHER CEMETERY

Excavations at Phaleron, a vast Archaic burial ground, are poised to tell the story of the city before the age of democracy

by JARRETT A. LOBELL



THE BEST-KNOWN cemetery in ancient Athens was the Kerameikos, in an area on the northwest edge of the city. The Kerameikos got its name from the Greek word for potters, *kerameis*, because this was also where the artisans and painters who produced the ceramics for which Athens was known across the Mediterranean world lived and worked. For thousands of years, from the Early Bronze Age into the early Christian era, this area near the Eridanos River served as a place of burial.

But, particularly in the Archaic (700–480 B.C.) and Classi-

cal (480–323 B.C.) periods, this was much more than a burial ground. “The Kerameikos at that time had nothing in common with a normal cemetery,” says archaeologist Stella Chrysoulaki. “It was a place of propaganda, a kind of museum of the city, and a way to celebrate it.” Filled with tombstones, grave monuments, shrines, and small temples, the Kerameikos tells the story of Athens and singles out its finest residents and families. It is, in fact, a type of pantheon, which, says University of York historian Julie Rugg, is a burial place intended to commemorate a nation’s heroic dead that can also have strong political intentions. It is no accident, explains Chrysoulaki, that the



The nearly 1,900 excavated burials in the Phaleron necropolis date from the mid-8th to the mid-4th century B.C. and encompass a wide variety of burial styles, including earth interments, cremations, and burials in large jars, sarcophaguses, and stone-lined graves.



Not all the human skeletal materials from Phaleron have been excavated on-site. Some remains, still in the sand in which they were buried (above, left), and jars containing juvenile remains (above, right) have been removed to be excavated in the lab.

Kerameikos was situated at the beginning of the Sacred Way, an 18-mile road that stretched from Athens to Eleusis, where the initiation rites of the Eleusinian Mysteries were performed. For the Athenians, Eleusis, as the location of the cult of the goddess Demeter and her daughter, Kore, was the city's most important religious site, apart from the Acropolis. The deities were responsible for the harvest and worshipped by a population for whom food security was always tenuous. An unsuccessful harvest could threaten their very survival.

Ancient Athens was by far the largest of the mainland city-states. Its population was likely four or five times greater than any of its mainland rivals, according to Ohio State historian Greg Anderson. Thus, it needed more than just a single cemetery reserved for the elite or for propaganda. It needed another place to bury its dead. An area in the deme of Phaleron (modern Faliro), the location of Athens' original port, three and a half miles south of the city center, served this purpose from the eighth to the fourth century B.C.

Beginning in 2012, a large-scale excavation was undertaken at Faliro, necessitated by the construction of the Stavros Niarchos Foundation Cultural Center—the new home of the Greek National Opera, National Library, and a large park. Because this area had long been public land and thus had never been extensively built upon—with the

exception of a racetrack in the 1920s—what lay beneath the compacted soil had been well protected for thousands of years. Some excavations had taken place at Phaleron under the supervision of the Greek Archaeological Service at the start of the twentieth century, at which time about 150 graves were uncovered. When work began again in 2012, the current project's archaeologists, led by Chrysoulaki, the head of the Ephorate of Antiquities of West Attica, Piraeus and Islands, could never have imagined that they would eventually uncover nearly 1,900 individual burials.

Although the precise extent of the ancient necropolis is not known, project archaeologist Sevos Angouras estimates it may have covered almost 10 acres. The team has excavated about three and a half acres, but most of the remaining cemetery space will never be explored as it has now been built on. Phaleron is one of the largest burial sites ever found on the Greek mainland, and it contains a variety of burial styles. The majority are simple interments in the coastline's soft sand, with few or no associated artifacts, or are infants buried in large jars. There are also some cremation and sarcophagus burials, stone-lined graves, one burial in a coffin made of a wooden boat, and a small number of horses. The earliest burials date to the Late Geometric period, or the end of the eighth century B.C., and the latest are from the Classical period. But the vast major-

ity date to the whole of the Archaic period, one of the most compelling and least understood spans of Athenian history.

AT THIS TIME, the city of Athens was only just coalescing, and the roots of what would become the world's first democracy were just beginning to take hold. Unlike the Classical period, for which there are copious literary sources, there is almost no contemporary literary evidence of the Archaic except for a collection of poems by the Greek statesman Solon dating to about 590 B.C. However, cautions Anderson, "even though Solon is remembered as politically involved in some way, these poems are not decisive at all in terms of the information they might provide about the path to what the Athenians called democracy. They are politically ambiguous." It is hard, he adds, to know very much of the history of Athens before the 508 B.C. reforms of the statesman Cleisthenes, who is thought of as the founder of Athenian democracy.

In addition to the lack of Archaic texts, says Chrysoulaki, "We don't have any Archaic houses, we don't know very much about everyday life, and even the temples were usually wooden. What we have is ceramics, some grave markers, and some terracottas." Now, however, scholars also have the remains from Phaleron—thousands of bones that provoke, and may, in the future, answer, questions about the world of Archaic Athens that monuments, artifacts, or even texts cannot. "The story of Archaic Athens is a very important one for the Greek world as a whole. The Classical era of Athens matters a great deal, and even defines what we think of as 'Greek' and how we understand what will become democracy," says Anderson. "You begin the story by saying that Athens was the most celebrated democracy in ancient Greece, but there remains considerable curiosity about where this came from."

TO ADDRESS THE enormous challenge presented by so many human skeletal remains, in 2015 the international multidisciplinary Phaleron Bioarchaeological Project was created. It aims to integrate demographic, paleopathological, forensic, bio-distance, biogeochemical, radiocarbon, genetic, historical, and archaeological lines of evidence. The project's founder is Jane Buikstra of Arizona State University. Buikstra pioneered bioarchaeology as the application of biological anthropological methodology to archaeological questions. She says, "Blending science with a historical and humanistic approach can be very difficult, but it gives us a much stronger perspective and removes the biases inherent in using only one methodology." She believes this allows researchers to talk about the people of the past from various scientific viewpoints, explaining, "I see bioarchaeology as an interdisciplinary science with a human face."

An essential element of bioarchaeology, and

indeed of all archaeology, is context. For this kind of work, Phaleron provides an ideal environment because it has gone undisturbed and because it is so extensive. In archaeological investigations as recently as 50 years ago, bones were often catalogued and then thrown away, primarily because it was unclear how to store them, how to conserve them, or what could be learned from them, explains archaeologist Curtis Runnels of Boston University. "The number of human remains from the ancient world available for study, therefore, is actually rather small," he says. Eleanna Prevedorou is a bioarchaeologist and the project coordinator at the Malcolm H. Wiener Laboratory for Archaeological Science of the American School of Classical Studies at Athens, where all the Phaleron materials are being stored and studied. Too often, she notes, even when human remains from archaeological sites were saved, the lists of bones were relegated to appendixes at the back of publications. This robs them of much of the related conditions, which is to say, context, that informs archaeological interpretation.

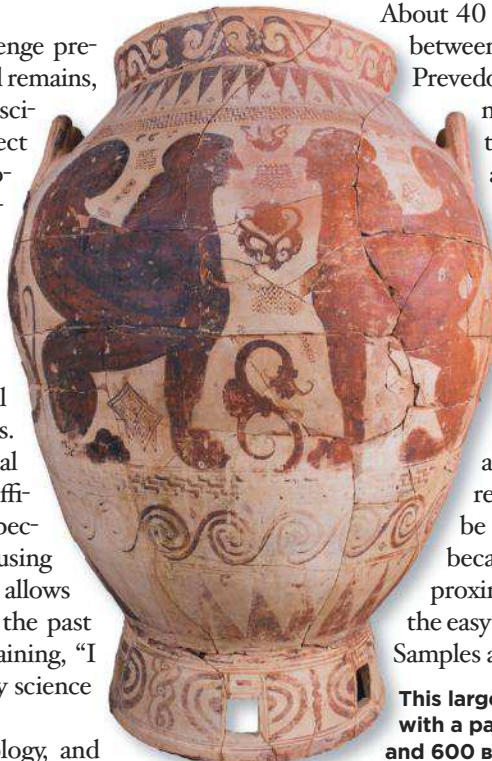
Phaleron's known context and sample size, by contrast, is unparalleled and invaluable. "Here we have the broadest sample possible," says Prevedorou. "Usually it's very limited, so you don't have much to compare anything with. The larger your sample, the broader your conclusions can be." There are other Archaic cemeteries, but none this large. She adds, "It's the extent, the chronological variation, and the variety of burial practices that make Phaleron so interesting."

CURRENTLY, PREVEDOROU has 1,400 boxes containing the remains of 1,100 individuals in the storage room that adjoins her office. In addition, there are skeletons that were transported in the soil in which they were buried, and 50 jar burials, both types to be excavated later in the lab.

About 40 percent of the skeletal material excavated between 2012 and 2013 has now been cleaned, and Prevedorou estimates that it will take at least two more years to finish the rest. At the same time, Angouras has created a database for all the project's findings that will be an important tool for researchers for many years to come.

As the cleaning and conservation takes place, the team is beginning to document the wealth of information the bones have to offer—sex, age at death, and evidence of disease or trauma. They are extracting both human DNA and that of pathogens found in the skeletal remains. These investigations may prove to be especially productive in Phaleron not only because of the sample size, but also because its proximity to the port might have encouraged the easy movement of pathogens in food or people. Samples are also being taken for radiocarbon dating

This large burial urn from Phaleron is decorated with a pair of sphinxes and dates to between 625 and 600 B.C. It contained the remains of an adult.



and isotopic analysis. At this point in the life of the project there are many more questions than answers. And the lines of inquiry permitted by the biological information gathered from the remains are nearly limitless.

“We will be able to see if the isotopic analysis shows that the people buried in Phaleron came from different places, or if they were local, or a combination,” says Prevedorou. “We can also address such issues as their genetic interrelatedness within the cemetery and, perhaps, in the future, between them and other groups of people by using ancient DNA.” This will be possible by combining biological information with archaeological data, such as the presence of different burial styles. “If people are allowed to bury their relatives according to their own customs, even when they come to live in a different place,” says Chrysoulaki, “this reflects the complexity even within different groups of the same society.” Studying the bones of the hundreds of juveniles interred in jars, a common burial practice at the time, will enable researchers to search for possible age distinctions. “Are they only neonates, or are there older ones as well?” asks Prevedorou. “And what, then, can we say about childhood identity and the experience of being a child at this time?”

For her part, Buikstra is especially drawn to the possibilities that Phaleron provides for the study of cancer in antiquity. “People argue about whether there was cancer in the past, how much of it there was, and what kinds of cancer there may have been,” says Buikstra. “But cancers are subtle and can be difficult to detect archaeologically, so you need a huge sample like this to X-ray in order to look for metastasizing cancers. If we find evidence of this, it tempers the argument that cancer is a modern disease. Knowing that humankind is at risk for

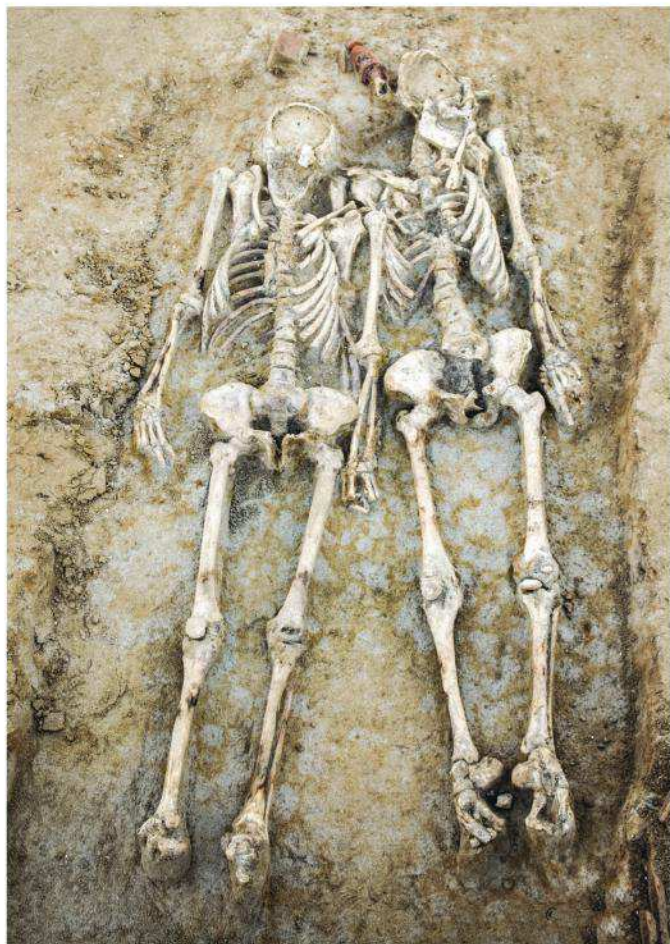
cancer at all times gives a perspective on how we view cancer today that we otherwise would not have.”

UNLIKE AT THE Kerameikos, at Phaleron there are no buildings, monuments, inscriptions, or grave markers—although there may have been wooden ones that did not survive—and there is not a large quantity of any sort of burial goods. “There are cemeteries for the high status and high class like the Kerameikos,” Prevedorou says. “In Phaleron we don’t know exactly who the people were, although it seems clear that they are not the elite members of society. This is a population that is rarely seen in the archaeological record.”

One group of burials from Phaleron is particularly striking, and the examination of their bones may go to the very core of the societal changes occurring in the Archaic period. These burials, which comprise just under 10 percent of the total, are characterized by evidence of captivity such as shackling, violent death, execution, and unusual burial styles. The first discovery of a group of this type, the so-called Bound Men of Phaleron, was made in 1915 and contained 17 male skeletons bound to a plank with iron collars around their necks, wrists, and ankles. Over time, archaeologists have variously suggested that these violently executed men may have been slaves who had worked in the infamous Laurion silver mines, or possibly mutinying sailors, pirates, apostates, or political prisoners—and that they had been crucified. More than 100 years later, Chrysoulaki’s team has uncovered about 190 more such burials in various locations across the cemetery that suggest some additional, perhaps more likely, possible interpretations. But, cautions Chrysoulaki, “I can’t evaluate their deaths, if they



About 10 percent of the people buried in Phaleron are distinguished by their violent manner of death, including these men who were manacled at the wrists—some also were tied at the feet—and executed, possibly with a blow to the head.



The grave of two adults interred with a small painted ceramic vessel, one of the relatively few quality grave goods found at Phaleron. The pair was buried holding hands.

were right or wrong, because I am not a judge. I don't know their story. The only thing I can see is a different way to be buried, and that they have been put to death in an unusual way. Normal death in antiquity is of age, disease, or battle."

Although these burials share some characteristics, at this point it is not possible to assign them to any specific event. The Archaic period, and especially the end of the seventh century B.C., was a time of unrest and transition. During that era, traditional political systems such as kingship were challenged—very often by families of aristocrats vying for primacy—on the way to the eventual establishment of democracy. Phaleron may provide some opportunities to examine how this transition happened. Chrysoulaki has suggested, for example, that one collection of burials may be related to this contest among aristocrats. These 80 men are arranged in three separate rows, the first containing 49 of the youngest men, between 12 and 30 years old, manacled at the wrists (and some are tied at the feet). They had, perhaps, been clubbed in the back of the head. "We can't tell if they were killed in place or transported here," says Chrysoulaki, "but they have been laid here very carefully one after the other. If they weren't killed here, they were killed only a few hours before, because rigor mortis had not yet set in when they were buried."

Most of the men were in very good health, and had strong

bones and excellent teeth, indicating they had been well fed and probably belonged to the upper class. This stands in contrast to, for example, the burials of several 20- to 30-year-old women who, because of a lack of calcium, had bones as light as a bird's. According to Chrysoulaki, the men were treated respectfully—their jaws were closed with fabric bands and not left gaping open, a look for the dead the ancient Greeks did not like—and they seem to have been given some rites to ease their passage to the next world.

Found about four feet away, the second row of men also had their hands tied. They were buried in a shallower pit, and were, on average, a bit older than those in the first row. It's similarly unclear whether they were killed in, or transported to, the cemetery, but Chrysoulaki says they, too, may have been executed with a blow to the head. The men in the third row seem to have been the last to be buried, and they are very close to each other and less carefully arranged. "I think they were killed in place and I think the gravediggers were in a rush," says Chrysoulaki. "Sometimes I wonder, was the sun rising and did they have to hurry because this was a secret burial?"

For Chrysoulaki, the story of these men is very much of the period. "I think these were Athenians, and that these graves tell us about an event that happened between citizens, people of the same society, and not between enemies or strangers," she says. "They were on the wrong side at the wrong moment during a struggle for power typical of this time."

As for the entire type across the entire cemetery, though, Prevedorou says there are many questions remaining: Do they all date from the same moment or event? Did they all come from the same place? Were they all foreigners? Were they eating the same things? What was their state of health in comparison to each other? How do they relate to the rest of the cemetery population? These queries can only be answered by looking at their bones.

WITH THE TREMENDOUS volume of human skeletal material excavated at Phaleron, it can be easy to forget that the story begins with the bones of a single person. Each individual is given his or her own box and treated with respect in the room where the Phaleron remains are kept. Analyzing these individuals begins to build their stories, and then the stories of the people buried near them, and then the story of the whole cemetery, and then of Athens, and then of the region of Attica, and finally of the history of the Archaic period in Greece. It is an elegant methodology because, rather than leading to somewhere specific that a text suggested, it leads to any and all possibilities. "This kind of science allows us to bring the details back to life," Runnels says. "There are things that can't be learned in the ancient texts—for example, discovering, in exquisite detail, the lives of the lower classes. There is insight and wisdom hidden in these details that texts cannot offer." Says Buikstra, "Ultimately, through these approaches, our attempt to people the past will be that much more rewarding." ■

Jarrett A. Lobell is executive editor at ARCHAEOLOGY.

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The ruins of England's
Wallingford Castle still stand
near what was once a strategic
crossing of the River Thames.



LETTER FROM ENGLAND

INSIDE THE ANARCHY

Archaeologists explore the landscape of England's first civil war

by **KATE RAVILIOUS**

Some 20 miles downriver of Oxford and an arrow shot from the eastern bank of the Thames rise the limestone ruins of Wallingford Castle, a massive fortress built following the Norman invasion of England in 1066. Led by the newly crowned William the Conqueror, the Normans—descended from Norsemen who had settled in northern France in the tenth century—built castles in large numbers throughout England to control

lands they had seized from the Anglo-Saxons. Along with Oxford and Windsor Castles, Wallingford was one of the most significant of these early Norman fortresses. And, in less than a century, the castle became the epicenter of one of the most momentous conflicts in English history. When William's son King Henry I died in 1135, his rightful heir was his daughter, Empress Matilda. But her cousin, Stephen of Blois, also a grandchild of William the

Conqueror, snatched the throne from under her nose. Matilda then launched an all-out campaign to win back the crown, plunging the country into a civil war that lasted almost 20 years.

In response to the crisis, nobles built still more castles, and rivals to the king set up their own mints and produced new coinage. Churches were fortified and the peasantry suffered deprivation as armies crisscrossed the country, ravaging

LETTER FROM ENGLAND

estates and burning property. A contemporary chronicle describes King Stephen's reign as "nineteen long winters" when "Christ and his Saints slept." Victorian historian William Stubbs described the period as the "Anarchy," a term that stuck.

But was the Anarchy really as horrific as contemporary histories and later scholars made it out to be? Over the last seven years, University of Exeter archaeologist Oliver Creighton has led a team that has followed in the footsteps of Stephen's forces across England. They have explored 12 of the war's most significant locations and used archaeological techniques to assess the upheaval brought about by the Anarchy. "This was a period that

experienced major political turbulence and an upsurge in fortification building," says Creighton. "Most of what we know about the period is through historical documents. We wanted to afford a new perspective by using the full range of archaeological data, from portable artifacts through sites such as castles and settlements, and even the evidence of the landscape itself."

One avenue of their research relies on the tendency of people to bury coins in times of strife to keep their fortunes safe. Although most such coin hoards are likely to have been successfully retrieved, the forgotten and lost ones that are recovered by archaeologists and metal detectorists centuries later can serve as an indicator of how

turbulent times were. "Hoarding provides a barometer of public fear, with fewer hoards deposited during peaceful periods," says Creighton. The number and distribution of coin hoards he and his colleagues have found show that Stephen's reign appears to have been a particularly insecure time. They see a huge spike in the number of hoards buried in lands in the rebellious areas of western Britain, going from just a few hoards per decade up to more than 10 per decade during Stephen's reign. This may indicate that people in the region felt jittery and were more inclined to bury their fortunes, or perhaps it reflects the chaos of the time, with people more likely to be killed or displaced and unable to



Empress Matilda (left) was the rightful heir to the throne of King Henry I, who died in 1135. But her cousin Stephen (right), seized the crown from her, setting off the two-decades-long civil war known as the "Anarchy."

return. Interestingly, Creighton's team also discovered that far fewer hoards from this period have been unearthed in the royalist southeast, hinting that a more peaceful atmosphere prevailed in this area and suggesting that only parts of the country were caught in the grip of political instability.

While the coin hoards and some of the team's other results have uncovered deep scars left on the landscape by this period of turmoil, other results paint a more nuanced picture of what it was like to live through these troubled times. In particular, the mighty Norman castles and the newer "counter castles" rising around the country during these two decades offer a look into how the rise of siege warfare during the Anarchy began to change the nature of medieval conflict. Investigation of these fortresses shows how commanders sought to avoid large-scale clashes of arms and relied more on long-term standoffs that could be resolved through political negotiation, a strategy at odds with the imagery of an utterly anarchic period in history.

Even though the majority of the stonework at Wallingford Castle has long since been pillaged, the sheer volume of earthworks remaining gives a strong sense of how imposing the castle would have been. Covering an area of more than 26 acres, the structure was protected by the stone walls of its inner and outer baileys, or courtyards, each paired with a vast water-filled ditch. These ditches, which in Stephen's day would have been 20 feet deep, still demarcate the area today, and their path reveals the circuitous entrance route that would have led to a huge fortified gatehouse. At the center of the complex lies a massive motte, or raised earthwork, measuring 40 feet high and 200 feet across—a backbreaking amount of soil to have shifted by hand. A small plateau at the top of the motte still offers a commanding view of the surrounding



During the Anarchy, some nobles issued royal coinage in the name of Matilda (top) and others did so in the name of Stephen (above), a sign of the political instability of the time.

landscape. During the twelfth century, this vantage point allowed Wallingford Castle to control a nearby bridge and ford across the Thames that served as the sole gateway to the strategically vital upper Thames region, which was the heartland of English kingship. After conflict broke out between Stephen and Matilda, the castle became a crucial stronghold. Unfortunately for Stephen, Wallingford was held by Brien fitz Count, a firm supporter of Empress Matilda.

In fact, Wallingford Castle became a vital refuge for Matilda. She fled here in the winter of 1142, after a dramatic nighttime escape from the besieged Oxford Castle. More than

70 years after the event, the monk and chronicler Matthew Paris wrote a—possibly fanciful—account of her journey to Wallingford, saying, “With womanly guile, when the Thames was frozen and white with snow, clad in white cloaks she and several companions escaped secretly by night from the castle through a postern, unseen by sentries or patrols because of similarity between the white of the snow and their clothes. Thus she fled unseen that night to Brien fitz Count at Wallingford Castle to save herself from the enemy.”

Because of its strategic location, Wallingford was in an almost constant state of siege for 14 years, from 1139 to 1153. For the local population, life during this time was harsh. “People farming outside the town walls would have been constantly vulnerable to having their crops and goods taken to feed the soldiers of either of the warring sides,” says Judy Dewey, a local historian and curator of Wallingford Museum.

However, life inside the castle wasn't bad and, throughout the period, its strong walls stood firm. “When Stephen first attacked in 1139 he intended to besiege the castle, because the walls were impregnable,” says local historian Philip Burton. “But he soon discovered that fitz Count had supplies to last several years, so Stephen had to change tack and decided to erect counter castles to try to control the roads into Wallingford.”

There are no obvious signs of Stephen's counter castles today, but one of them is described in the twelfth-century text of the *Gesta Stephani* (“The Deeds of Stephen”) as being located on the other side of the river, directly opposite Wallingford Castle. In 2011, the construction of a new housing development there provided an opportunity to explore the site.

While a commercial archaeological team dug 13 trenches and carried out large-scale mapping and recording,



A 3.2-inch-tall bronze gilt plaque known as the Temple Pyx was probably made around 1150 and illustrates how armored knights of the period would have appeared.

Creighton and his team conducted geophysical and magnetometer surveys. They quickly established that this was the location of Stephen's Crowmarsh Castle, described in *Gesta Stephani* as being built "within sight" of the town of Wallingford and as a "work of wondrous toil and skill."

The excavations revealed an oval enclosure around 115 feet across, surrounded by a truncated embankment and an 80-foot-wide ditch. Unlike

Wallingford's traditional motte-and-bailey castle on the other side of the river, Crowmarsh was likely a ringwork castle: a wooden castle defended by a bank and ditch that surrounded it. Positioned close by Wallingford Bridge, the castle enabled King Stephen's archers to have complete command over the road approaching the bridge. "Although the site of Crowmarsh Castle was inferior to that of Wallingford, it would have been immensely irritat-

ing because of its ability to control the road," says Dewey.

At the bottom of the ditch, archaeologists recovered significant quantities of Anarchy-period pottery, providing interesting detail about everyday life at the castle. One thing that immediately stood out was the exceedingly high proportion of jugs and pitchers in the assemblage. "This suggested a style of consumption more akin to a high-status manorial site," says Creighton.

Documentary sources back up the archaeological evidence for the period's rather languid style of warfare. Despite there being three main sieges (1139–1140, 1146, and 1152–1153) and pretty much continuous military presence for more than 14 years, there was surprisingly little bloodshed. There are no records of King Stephen ever trying to storm Wallingford Castle, and the closest he came to direct assault was when he took control of the bridge in 1152. The only really gory moment was when 60 royal archers were beheaded by Empress Matilda's supporters. "The siege castles were primarily employed in chess-like power plays and shows of posturing, force, and resolve," explains Creighton.

Intimidation was the name of the game, as suggested by the significant number of high-status military items found at the bottom of the Crowmarsh Castle ditch during excavations. Horse fittings, knives, and dress ornaments all provide evidence of a knightly presence at the fortress. "Whether the mounted knights were there to prevent raiding parties or more as a show of force is hard to say," says Creighton. During the 1130s and 1140s, the image of the mounted knight was beginning to crystalize as jousting tournaments, which tended to flourish during periods of weak rule, first became popular. Knights also began using dramatic coats of arms during this time, but the great irony was that because the era was dominated by siege warfare, they actually played a limited role in the conflict.

The same stalemate that existed between Crowmarsh and Wallingford Castles played out wherever nobles saw the Anarchy as an opportunity to improve their own standing. Safe inside their strong stone castles, they would undermine King Stephen as they minted their own coins and stirred up rebellion. Stephen's response was to hastily throw up siege castles and cut off supplies to starve out the unruly barons and earls.

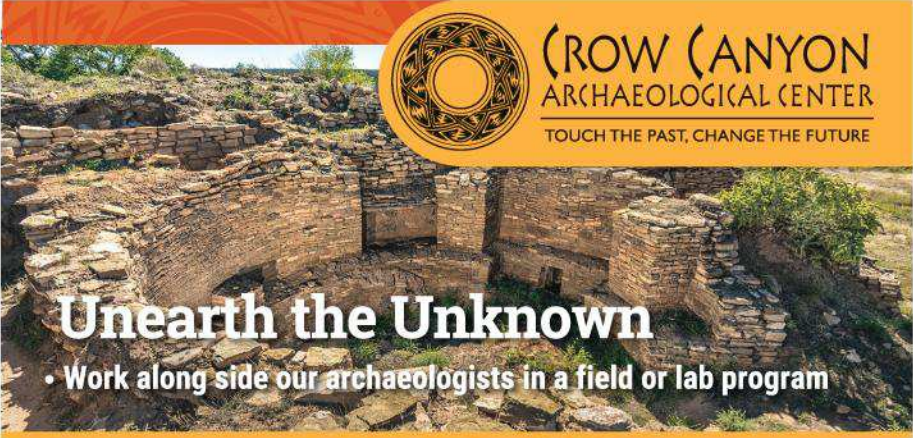
Baldwin de Redvers, Lord of Plympton, was one of these disenfranchised aristocrats who saw there were personal advantages to be gained by backing Empress Matilda. In 1136, he seized Exeter Castle on her behalf, helping her to maintain her stronghold in the southwest. Emboldened by his success, he continued to throw his weight around. By 1139, Stephen decided it was time to take de Redvers in hand, and managed to blockade him into Corfe Castle in Dorset by building a siege castle nearby.

In 2013 and 2014, Creighton and his team carried out a geophysical survey at a spot on a low crest opposite the imposing hill where Corfe Castle stands. Well-defined ridges on the ground there revealed themselves to be clear traces of Stephen's twelfth-century ringwork siege castle. "It was clearly built to blockade, intimidate, and observe," says Creighton. Unfortunately for Stephen, the protracted siege didn't work on this occasion, and de Redvers went on to be rewarded for his rebellion, with Matilda appointing him the 1st Earl of Devon in 1141.

Over in the east of the country, Geoffrey de Mandeville, Earl of Essex, was another thorn in Stephen's side. "He was an absolute scoundrel who was constantly changing his allegiance," says Creighton. His land holdings included a number of castles in strategic locations around the city of London, and he used these as leverage to play Stephen and Matilda against

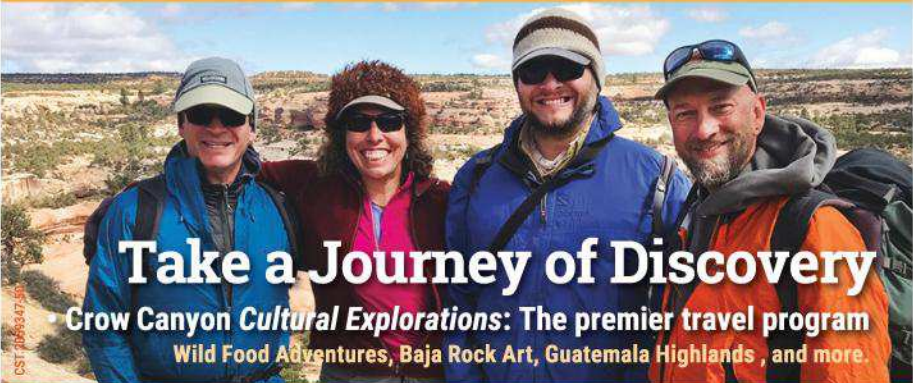


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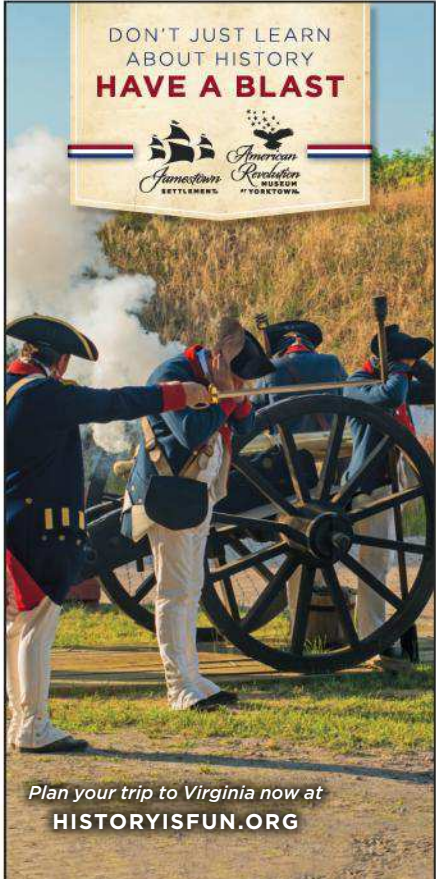
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Archaeologist Oliver Creighton conducts a geophysical survey of the remains of an earthwork siege castle that Stephen's forces built against Corfe Castle (visible in the background), which was held by a nobleman who backed Matilda.

each other. But things came to a head in 1143 when Stephen recognized what a liability de Mandeville could be and had him arrested, forcing him to relinquish a number of his castles and the Tower of London (where he was constable) in return for his life and liberty. For de Mandeville the battle lines were now clearly drawn, and he soon headed to the Isle of Ely, situated in the Fenlands of eastern England. There he quickly established his power, expelling the monks from the island's Ramsey Abbey, plundering and burning churches in Cambridge, and securing bases on the causeways leading to the Isle.

The consequences of de Mandeville's campaign, in this then marginal farming area, were brutal, according to the twelfth-century Ely Abbey chronicle, *Liber Eliensis*:

For twenty or thirty miles there was no ox, no ploughman to be found tilling the smallest piece of land. One could scarcely buy the tiniest measure [of corn] for two hundred pence, and, so great was the human disaster that followed from the scarcity of bread that, throughout the lanes and streets, people lay dead in hundreds and thousands, swollen like [wine] skins, and their corpses were left unburied for the wild beasts and birds.

Soon Stephen headed to the Fens to quash de Mandeville. Written sources reveal that Stephen constructed a number of fortifications around the fens' edge, in order to try to restrict de Mandeville's movements. One of these fortifications was a castle situated in the small village of Burwell, which at that time sat at the water's edge, looking over to the Isle of Ely.

A raised rectangular earthwork platform there, measuring 100 by 200 feet and surrounded by a 20-foot-deep ditch, indicates where the castle once stood. During the

(continued on page 62)

CLASSIFIEDS

BOOKS

RAVEN MOON. A museum curator vanishes and her image appears in one of the standing stones of Avebury. A Paranormal Archaeological Mystery by Deborah Cannon. The sequel to **RAVEN'S BLOOD.** Available from amazon.com

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**Materials for the Sept/Oct 2018 issue
are due July 9, 2018**

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LETTER FROM ENGLAND

(continued from page 60)

1930s, archaeological excavations at the site uncovered stone foundations indicating that this was a substantial castle and that it probably had a stone defensive wall and tower. “This was clearly not a hastily built and expedient earth-and-timber siegework, but something grander and more defensible,” says Creighton. In 2014, Creighton and his colleagues carried out a topographic and geophysical survey of the area. Their findings suggest that Stephen never finished building this hefty castle.

The survey revealed a series of large irregular mounds that were spoil heaps from ditch excavation and that the ditches themselves were only partially

dug. The spoil heaps overlook the castle platform, and would most likely have been intended to be removed at a later date. “It demonstrates that the castle building at Burwell ceased before completion,” says Creighton. Instead, it appears that Stephen’s need for Burwell Castle evaporated in 1144 when de Mandeville was mortally wounded by an arrow to the head, fired by one of Stephen’s archers.

Using geophysics to peer deeper underground, Creighton and his team were also able to answer the perplexing question of why this castle was built from stone, when most of Stephen’s other castles were hastily erected wooden affairs. Just north of the castle’s ditch, a series of linear anomalies were identified. The distinctive

layout of the anomalies—outlining a rectangular structure with an internal subdivision—bear close resemblance to Romano-British temples. Together with the large volumes of Roman material uncovered in the 1930s, this geophysical evidence suggests that Stephen’s castle was in fact an adaptation and repurposing of existing structures, including a Roman temple and an Anglo-Saxon noble residence. The discovery shows that the form of Anarchy-period castles varied greatly across the country.

As contemporary chronicles such as the *Liber Eliensis* suggest, the Anarchy was without a doubt devastating for many people, but the turmoil was not evenly distrib-



An earthwork mound is all that remains aboveground of the unfinished Burwell Castle, built by Stephen to contain the rebellious Earl of Essex, who was killed before the fortress was completed.



A reconstruction of Stephen's Crowmarsh Castle shows it was erected across the Thames from Wallingford Castle (in the background). He destroyed it in accord with the terms of the peace agreement that ended the war.

uted across the country, and for some people life carried on pretty much as normal. And even in the areas where the fighting was most intense there were rarely full-scale battles. Instead the war was waged using cat-and-mouse-style tactics, with sieges, raids, ambushes, and scorched-earth policies all favored by commanders. "Anarchy is a freighted term that is grounded more in the supposed order of the later periods and projects a lot of assumptions backward," says University of Wisconsin medieval historian Karl Shoemaker. "Creighton's research confirms that the level of disorder and violence was probably not more than the levels contemporaries usually expected."

It could even be argued that the long, drawn-out style of psychological warfare may have eased the path to peace. "Siege warfare could put attackers and defenders within sight, and sometimes earshot, of one another over many weeks, months, or even years," says Creighton. "And, as we have seen, siege castles presented opportunities for demonstrating resolve, for displaying and threatening hostages, and for serving as platforms for parley."

In fact, it was ultimately a failed siege of Wallingford Castle in 1152 that precipitated the end of the conflict. The next year, the castle was the site of peace negotiations between Stephen and Empress Matilda's son,

who later became King Henry II. Stephen agreed to a truce, and promised to "raze to the ground the castle that was the seed-bed of war," i.e., Crowmarsh Castle. Creighton says that material found during the excavation of the castle's ditch—a mix of soil, chalk blocks, and charcoal and burned daub—fits with the documented razing of Crowmarsh Castle. Unearthing evidence for the negotiated destruction of Crowmarsh Castle reinforces Creighton's conclusion that the mid-twelfth century is best understood not as an age of anarchy, but an age of transition. ■

Kate Ravilious is a science journalist based in York, United Kingdom.

DISPATCHES

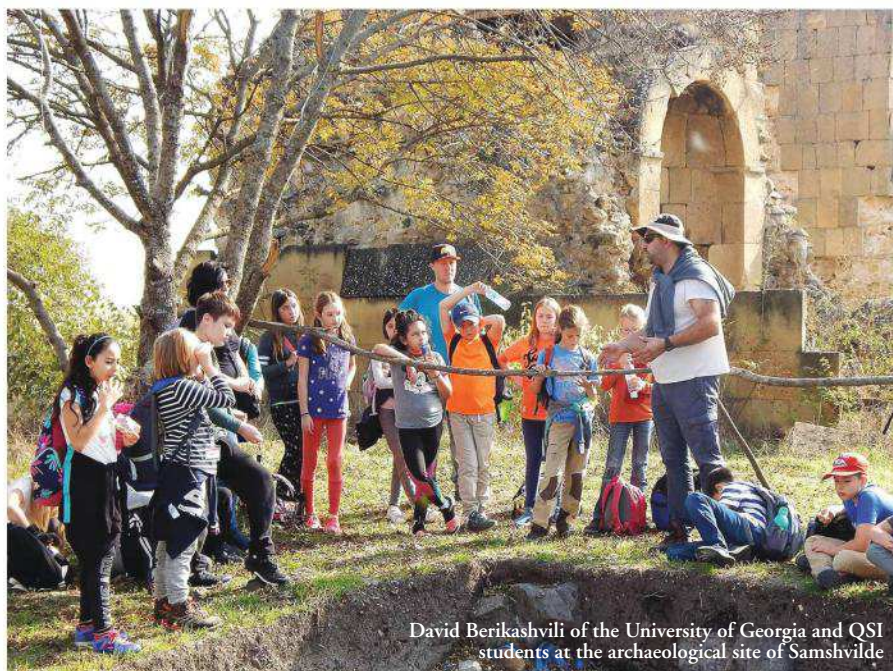
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FROM THE AIA

EXCAVATE • EDUCATE • ADVOCATE



CELEBRATE INTERNATIONAL ARCHAEOLOGY DAY, OCTOBER 20, 2018



David Berikashvili of the University of Georgia and QSI students at the archaeological site of Samshvilde

International Archaeology Day (IAD), the annual celebration of archaeology begun by the AIA, continues to expand globally. In 2017, more than 500 Collaborating Organizations in two dozen countries organized over 900 events. Follow-up reports indicate that at least 200,000 people attended IAD events around the world. In comparison, the first Archaeology Day in 2011 featured 115 events, 14 Collaborating Organizations, and an attendance of just over 15,000 people.

Although IAD is officially celebrated on the third Saturday in October, Collaborating Organizations hold events throughout the month highlighting the important work they do. IAD events vary greatly by organization and location.

For example, in 2017, the International Archaeological Center of the University of Georgia and Quality Schools International Tbilisi hosted a seminar led by faculty and students at the University of Georgia and a

walking tour of the archaeological complex in the ancient and medieval fortified city of Samshvilde in central Transcaucasia, southern Georgia. A workshop on obsidian knapping and Neolithic stone toolmaking was also part of the two-day event.

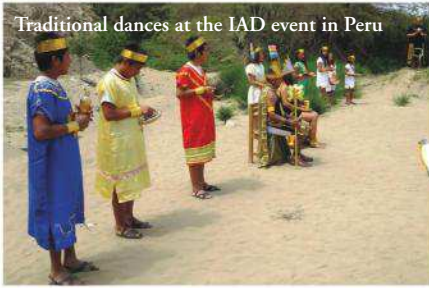
The Maria Parado de Bellido School in Nivín, Peru, and the organization



Culture and Community in Casma, Peru, cosponsored a wide array of activities. The celebration of IAD is an important event for the community of Nivín and a step toward reclaiming the region's historical heritage. Volunteers gathered to tend to the archaeological site at Calavera Grande, and the local community sponsored a campaign to raise public awareness about the preservation of sites in the Casma Valley. Other events included a re-creation

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Traditional dances at the IAD event in Peru

of an ancient rite honoring Pachamama (Mother Earth), preparation and tasting

of traditional dishes prepared with pre-Hispanic plants, presentations of school projects and artistic work, and Andean and coastal folk dances.

We hope you will celebrate IAD with us in 2018 by organizing a public event in your area or by attending one. Popular events include archaeology fairs, laboratory open houses, classroom visits, special tours of museums and archaeological sites, symposia, conferences, meetings, student presentations,

lectures, and much more. Collaborating Organizations and their activities are featured on the IAD website and included in the main IAD calendar. Join us and promote your organization and your event by posting announcements and updates on the IAD blog, and by providing a report with images after your event. Articles can be emailed to Ben Thomas (bthomas@archaeological.org). To read more about IAD 2018, go to archaeologyday.org.

LOCAL SOCIETIES USE AIA GRANTS FOR COMMUNITY OUTREACH

AIA Local Societies are central to the AIA's mission of promoting public understanding of archaeology in local communities. More than 100 Local Societies, primarily in the United States and Canada, organize events and participate in AIA programs such as the lecture program and International Archaeology Day, and are eligible for Local

Society Outreach Grants. The grants help to support Societies' activities. The Societies and their events that have received the most recent round of awards are:

Athens (Georgia) Society: Sharing Technology for Archaeology

The AIA-Athens Society will host an event

on the University of Georgia's campus that demonstrates several cutting-edge technologies used today in searching for and characterizing archaeological sites. Highlighted tools will include shallow geophysical instrumentation, drones, underwater remotely operated vehicles (ROVs), and lidar scanning.

Demonstration of 3-D scanning of artifacts at an event sponsored by the AIA Local Society in Richmond, Virginia, supported by a Local Society Outreach Grant



JOIN A SOCIETY TODAY!

AIA Local Societies organize many events, including lectures, archaeology fairs, conferences, colloquia and symposia, themed dinners, and even garden parties. Societies and their members are the backbone of the AIA. Become a part of this wonderful network of people who are promoting archaeology and preserving the human past. To learn more about our Societies, visit archaeological.org/societies.



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Participants making pots at an event organized by the AIA Local Society in Greensboro, North Carolina, supported by a Local Society Outreach Grant

Central Arizona Society: Fall Forum in the Classics and Open Door @ Tempe

The Central Arizona Society will hold two events at Arizona State University. The Fall Forum in the Classics will host middle- and high-school classical language students on campus for a day of classically themed lectures, games, and arts and crafts in November 2018. In February 2019, the Society will participate in Open Door @ Tempe, a university initiative that invites community members to campus for a Society-led workshop on making clay vessels, votive figurines, and cuneiform tablets inspired by the ancient world.

Edmonton Society: Archaeology Open House

The AIA-Edmonton Society will host an archaeology open house for the public on October 13 at the University of Alberta. The event will include displays, workshops, and short talks as well as visits to the WG Hardy Classics Museum.

Houston Society: The “A” Games—Ancient Games Tournament

The Houston Society will host the “A” Games Tournament in January 2019 at the Houston

Museum of Natural Science and the local Ronald McDonald House. Games from the ancient past, aimed at audiences ages seven and up, will include Lewis chess, senet, the royal game of Ur, checkers, pachisi, mancala, and the Mesoamerican board game of patolli.

Niagara Peninsula Society: Art and Artifacts

In celebration of International Archaeology Day 2018, the Niagara Peninsula Society, located in St. Catharines, Ontario, will bring students from the District School

Board of Niagara (DSBN) Academy to the Cypriote Museum at Brock University. The Society-sponsored event aims to educate and engage students in the study of archaeology and introduce them to the importance of understanding the past through artifacts. In addition, it offers students a new perspective on higher education, one that creates an experience of belonging and possibility, rather than exclusion.

North Carolina (Triangle Area) Society: The Art and Archaeology of Roman Hairstyles

The AIA's North Carolina (Triangle Area) Society will host a two-day event in February 2019 featuring a public lecture and workshop on Roman hairstyles led by hairstylist and experimental archaeologist Janet Stephens. Members of the public, students participating in Latin language programs at local schools, and University of North Carolina at Chapel Hill undergraduates enrolled in the new interdisciplinary course Art and Fashion from Rome to Timbuktu will be encouraged to attend these events.

Orange County Society: Invitations for Lecture and Garden Party Events

The Orange County Society is putting

together a special mailing inviting ARCHAEOLOGY magazine subscribers in their area to the Society's 2018–2019 events. The mailing will highlight their 2018 garden party, which will raise funds for local students to participate in archaeological research.

Pittsburgh Society: International Archaeology Day—Fun for the Entire Family

The Pittsburgh Society is planning its first International Archaeology Day celebration for 2018. The Society is planning events for all ages, including hands-on activities for younger participants, presentations on digital applications in archaeology for advanced students and adults, and a walking tour highlighting classical architectural influences in and around the University of Pittsburgh's campus.

AIA Societies are always looking for new members. To find out more about how you can get involved and to locate a society near you, go to archaeological.org/societies. If you are not yet an AIA member, please join at archaeological.org/join. ARCHAEOLOGY magazine subscribers can upgrade their membership at archaeological.org/upgrade. And remember that all AIA programs are supported by the generosity of our members and friends. To find out about supporting the AIA and its activities, go to archaeological.org/giving.

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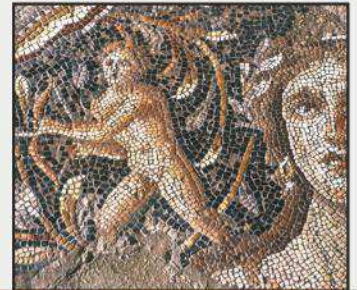


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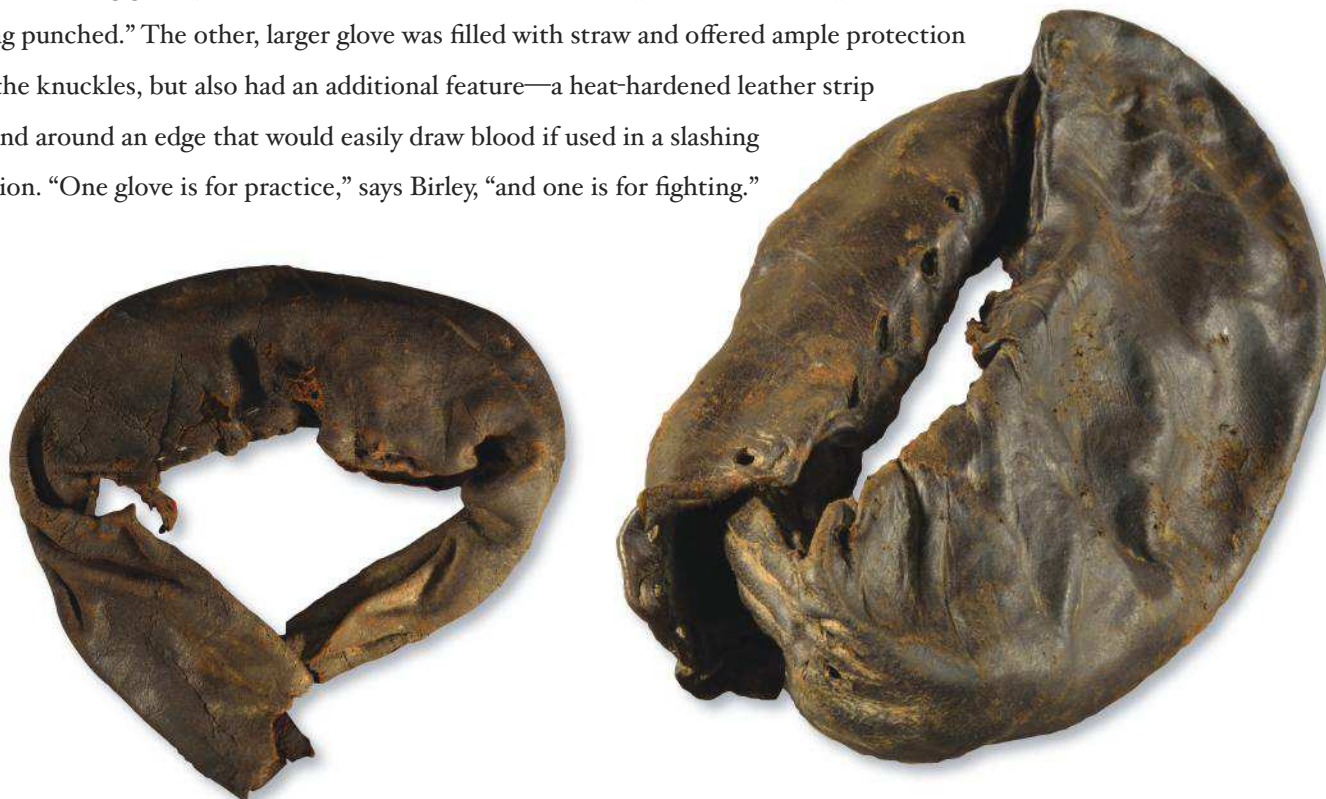


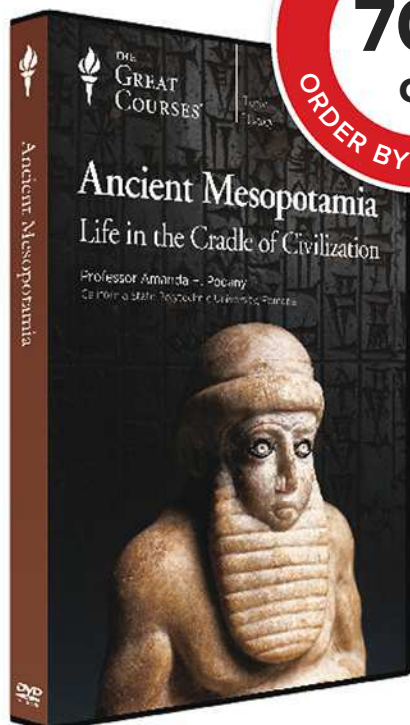
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British journalist and sportswriter Pierre Egan was the first person to refer to boxing as the “sweet science,” in an article he penned in 1813. At that point, the sport had already been popular for thousands of years. Boxing is mentioned in Homer’s *Iliad* and was practiced at the Olympics beginning in the seventh century B.C. There are life-size Hellenistic bronze sculptures of boxers, and depictions of boxers from the classical world decorate Minoan wall paintings, Athenian vases, and Roman mosaics.

No actual boxing gloves, however, had been found until recently, when, at the Roman fort of Vindolanda near Hadrian’s Wall in northern England, these two examples were discovered on the floor of a cavalryman’s barrack alongside a pile of horse gear, shoes, wooden bath clogs, gaming counters, and a nearly complete sword. “There are references to boxing in the Roman army,” says site director Andrew Birley. It must have been seen as a good form of training, exercise, and entertainment. “What is so interesting about the gloves, though, is that, while similar, they are also different from each other. The smaller of the two is soft and has layers of interwoven leather in the glove’s main padding. You can still see the imprint of the boxer’s knuckles in the leather.” Birley thinks this is a sparring glove, “offering good protection to the wearer and moderate protection to the person being punched.” The other, larger glove was filled with straw and offered ample protection for the knuckles, but also had an additional feature—a heat-hardened leather strip wound around an edge that would easily draw blood if used in a slashing motion. “One glove is for practice,” says Birley, “and one is for fighting.”

WHAT IS IT
Boxing gloves
CULTURE
Roman
DATE
ca. A.D. 117–119
MATERIAL
Leather
FOUND
Vindolanda, Northumberland, England
DIMENSIONS
5.3 by 3.3 inches, 6.1 by 5.1 inches





What Was Life Like in Ancient Mesopotamia?

When we imagine what life might have been like thousands of years in the past, the images we often conjure are primitive ones: reed and mud huts, cooking pits, villagers, and simple farms. But by five thousand years ago, life in some places brought impressive achievements—such as stepped temples that towered like mountains and elaborate palaces (some with bathrooms and plumbing).

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